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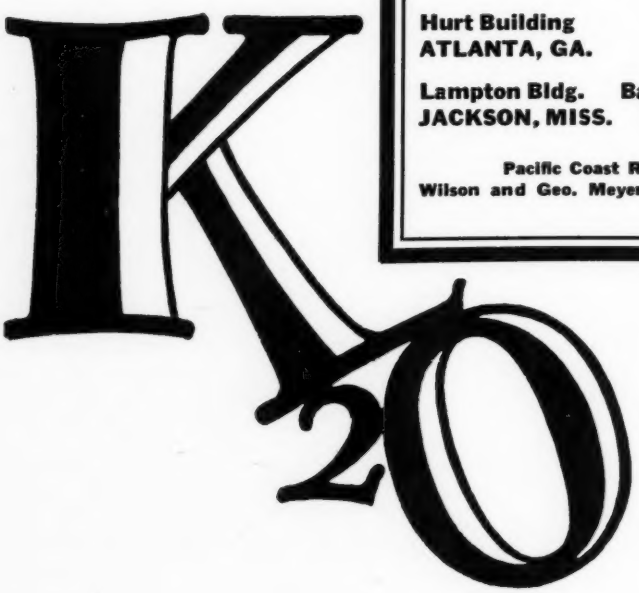

# Better Crops with PLANT FOOD

The Whole Truth—Not Selected Truth

R. H. STINCHFIELD, *Managing Editor* SID NOBLE, *Editor*

*Editorial Offices:* 19 West 44th Street, New York

VOLUME XVIII NUMBER TWO

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Agricultural and Scientific Bureau

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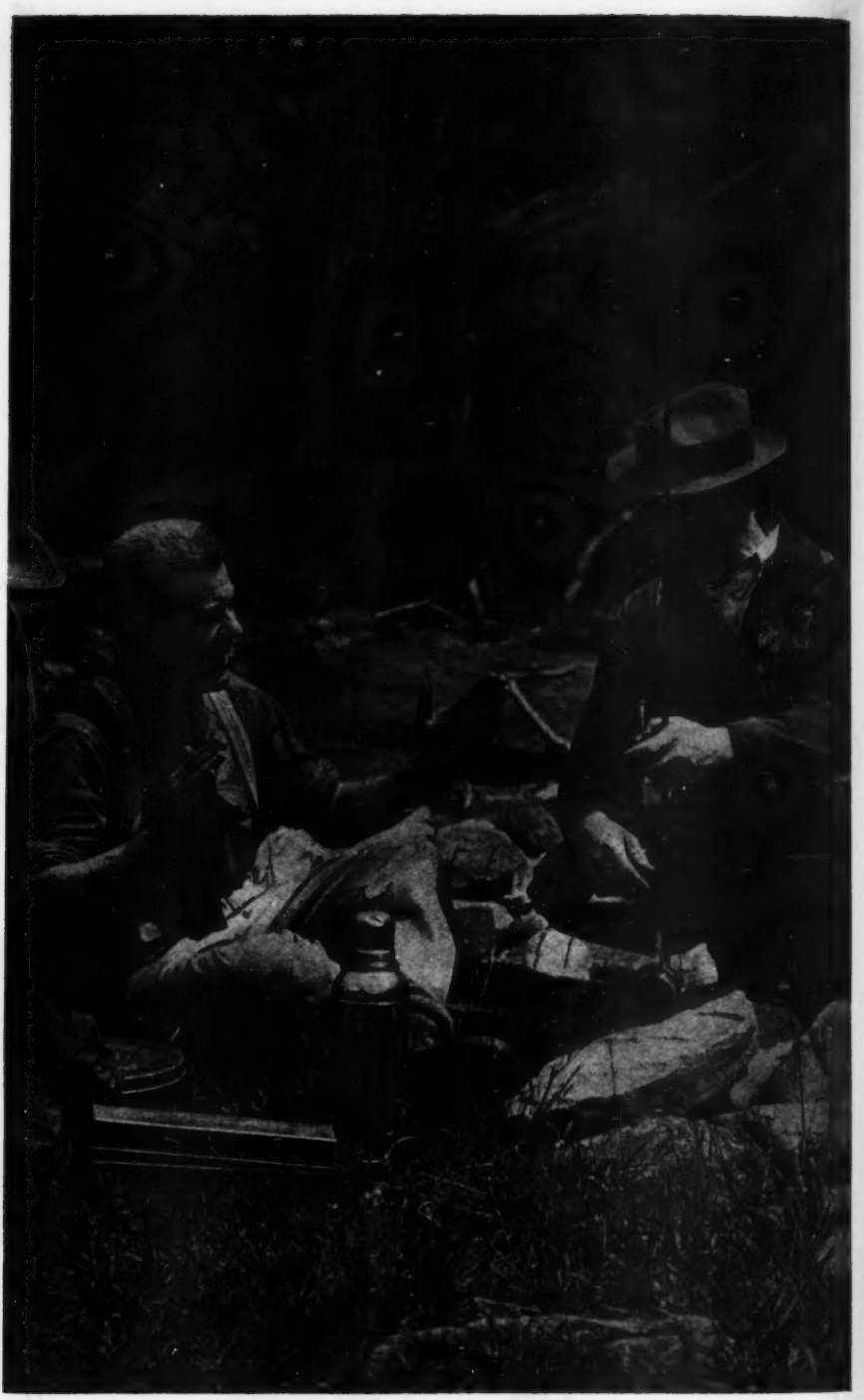

THE ONE THAT GOT AWAY!

Better Crops with PLANT FOOD

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VOL. XVIII NEW YORK, JUNE-JULY, 1932 No. 2

*The whole process of life is a matter of education.*

# Alma Mater Minus

By Jeff McDermid

ALMA MATER has fired the hired girl, the social secretary, and the washerwoman. Pater Publicus, the gay provider of the joy era, has been going over the budget again, and there are apt to be dry times at the bubble fountain of Erudition unless Alma Mater pinches the pedagogues.

Unfortunately, Alma Mater was raised in a mid-Victorian atmosphere of affluence and comfort, so the result is rather trying on practical minds. As stated, she disposes of the common labor as represented by the little, unbefriended graduate assistants; cuts out the guardians and mentors of student morale; and then decides that stadiums must be filled and touchdowns made regardless of economies in the kitchen. So she fires ten humble instructors, lets two prominent educators jump the fence to greener pastures, and takes the fund thus saved to hire a coach who will keep her name flaming on the pink sheets.

Next fall while the ten humble tyros whom she trained stand with their families in the bread line, eleven educational question-marks of the future huddle in the mud of the scrimmage

line. Alma Mater and Pater Publicus shout themselves hoarse on the sidelines with Prexy and the other Advocates of Thrift.

That kind of brain budgeting deserves a rousing chorus of "Ra, Ra," with the suffix "w" for justice's sake.

College deans and regents are joining befuddled corporation directors in the bothersome question, "Where do we go from here, and if so, why?"

Commerce and industry are in no greater perplexity than education regarding the problems of the present and the opportunities of the future. The consternation and uncertainty into which the intelligentsia of university and college towns have been plunged by hysterical budget reductions are but a sign that the resources of American study and research deserve an inventory.

These conditions are found in the faculties of small, fresh-water academies, ambitious independent or endowed colleges, teachers' training schools, and in state-supported universities.

UNDER the shadow of tense times many ordinarily well-to-do students have dropped out of school. Jobs for the willing ones who enter college on the self-supporting basis have become painfully scarce. State legislatures have seized upon the political expediency born of tax necessity, to slash the maintenance and operating costs of institutions of learning. Other independent colleges have been obliged to live on invested capital or invent some financial makeshifts.

Supply and demand, the inexorable law of practical life in a mundane world, has at last crunched on its juggernaut pathway into the ivied cloisters of peaceful, theoretical, daydreaming realms. Only a small percentage of the graduates who received degrees in dignified robes under academic elms of 1930 and 1931 were able to find lucrative employment of any kind. Care-free freshmen, off to college in the gleeful years of 1926 and 1927, flushed with assurance of victory at the end of collegiate rainbows, confident that the sheepskin was as typical of touchdowns as the pigskin, saw the vision vanish in a few semesters of shattering ideals.

With the stoppage of the stream of normal outlet, the wellspring of knowledge, that Pope called Pierian, soon became a swirling eddy that may even turn into a stagnant pool full of croaking frogs beneath the weeping willows.

Try as he may, the patient savant, wishing to be aloof from commercialism, free from subsidized opinion, and wedded to art or science for its own sweet sake, finds that wistful pupils (worldly wise to limited horizons and beset with unpaid board bills) face him like spectres at the feast of learning.

THE erstwhile trusting undergraduate is now an atheist on matters of educational preparedness. He wonders what it all leads to, and consults ruefully with ardent iconoclasts who are growing more vehement in student life.

To the bachelor or maid engaged in higher education, this unrest in youth may seem but an incident of the passing period. But to the family man of the faculty with children approaching sacred goals so long portrayed to them with ecstasy, to be so easily conquered by parental help and experience, the collapse of erudition's fortress is something that cannot be dismissed by waving the white flag of surrender.

Becalmed traders, warriors of the laissez-faire, buccaneers of the stock market, adventurers of the main chance—these may bow to the blows of fate and accept a meed of charity or make unwilling adjustments; but your naive, disinterested, harmless palmer, absorbed with book and bell—what must his outlook be?

Why should he consider capitulation when he never desired to be at war

with the world? Followers of Omar the Tent-maker, peaceful philosophers and star-gazers—is there no place of refuge left for devotees of leisurely research and pregnant cogitation? What dark curtain is this closing on the renaissance?

Possessors of the coveted degree of artium magister may seek solace in the retrospect of academic memories, *sans peur et sans reproche.* They may comfort themselves betimes with the precept of Addison: "It is an unspeakable blessing to be born in those parts of the world where wisdom and knowledge flourish."

YET beating unceasingly against the study door where the preceptor sits among his mental treasures, there comes the raucous calls of the grocer, the landlord and the insurance collector; the echoes of family plans for grudging retrenchment; and the threat of half-pay semesters ahead. Bending anew at his task, the mender of errors finds with irony that even the books he corrects are tinted in blue.

It is almost too late for him to wonder why his grandmother embroidered the ancient cross-stitch motto: "Knowledge is Power." That was before the days when butchers' sons studied astronomy and the hoi polloi sought to understand Edna St. Vincent Millay.

Along with the rise of higher education for the masses there came the incessant demand from nearly every trade and profession for collegiate and university standing and ample recognition in the curriculum. State universities became preparatory schools for all kinds of vocations, whereas in earlier times the doctor, the lawyer, the minister, and the teacher were the chief products of advanced culture.

Added to this came demands for professional and commercial research, often accompanied by scholarships to graduate students who majored in anything lucrative, from all the branches of economics to the many fields of science and engineering.

The inevitable result was the erection of more buildings, the purchase of more facilities, and the addition of larger faculties. That the expansion robbed the student of a certain kind of benefit formerly enjoyed by reason of close contact and friendship between teacher and pupil came as a slight misgiving, only to be swept aside in the flood of progress.

AT the crest of the movement a vast amount of argument arose in several western State universities concerning the morality of taking financial aid from private foundations. Some of the faculty members made overtures for endowments to be devoted to specific problems of research and specialist training. Human health and sociology in divers phases formed the principal lines in which this aid was sought or offered, but by no means the only ones.

As a result of this controversy, in a few institutions there was laid down a mandate from State legislatures or

Sciences combine to protect the health of our national forests, in dusting trees with an airplane.

regent bodies that no funds might be accepted for use in colleges supported by the public. The principle was popularly endorsed that the State could and would support its own university and thereby remain forever free of commercial compromise.

So the door was closed to outside benefactors bringing gifts, lest there be some string attached to tangle up the faculty and subsidize the student body. This was evidence of the false pride of flush times.

And now the solons and regents have raised the signal of distress because of dismayed or delinquent taxpayers. Thereupon the deans have driven the wedge into the departments, and the once-confident faculty are in a flutter.

IN normal times the flutter would have meant the preening of wings for a flight to some other academic aviary where corn was more plentiful and ranges less restricted. It used to be possible for a mediocre but grieved faculty member to play one university against another, if he were sufficiently practical to think of self between seminars. But in these latter days of limited demand for pedagogues, even the faculty's best bargainers must go abegging or sit still on a shoe-string.

Hence the educational crisis has come alike upon the disinterested dreamer and the shrewd calculator, who both are obliged to make the most of what may be in store during the next decade of scholastic history. Can we afford to let them muddle through unaided? Must we let things run their courses or advise the faculty to join the Federation of Labor or the Fascists?

The history of public education proves that for the most part the majority of teachers have not been folks of canny foresight along material lines, but have been hopefully and enthusiastically borne along on the immediate current of expediency.

Their business was a blend of socialism and paternalism. This was our own fault. The schools and colleges were collectively built and collectively operated, and the faculty's prime concern was to mold young minds and characters. That this entire molding job was often theirs to do by proxy only reflects upon the wisdom of the parents.

Beginning with the humble rural school, it has been a common experience that few parents ever visited it during class hours, except to berate the teacher for whacking a little concentration into a dull pupil. To be sure, they attended school at election time, mostly to vote out some board member who had sense enough to support the teacher in a teapot crisis. The dog-eared report cards were messages of misunderstanding, and the supervising teacher was regarded as a snoop. The average country school outwardly symbolized the famous three R's—rust, rack, and ruin.

Secondary education fared a trifle better in some ways than primary. But the university and college added to the risk by receiving pupils whose parents had no conception of the trinity in education, which consists of teacher, student, and home influence. So universal had this custom become that college faculties learned to resent the suggestions from certain parents who *had* kept pace with the educational budding of their scions.

THIS newer philosophy that each child is a new growth of life and should live and learn by itself without any drags of parental prejudice is merely a twisted offshoot of the old wheeze, "every tub stands on its own bottom." But somebody has to see that the bottom doesn't leak.

So the old perplexing shout of the critical layman, "Where is education leading us?" can now be matched with an equally abstruse rejoinder, "Where have we pushed education?"

The answer is that we cannot push it too far for the minds most deserv-

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The three blocky potatoes on the left are typical of those produced on high-potash fertilizers, while those on the right are typical of potatoes produced with high nitrogen and low potash.

# Fertilizers *and* Potato Shapes

*By R. F. Thomas*

Houlton, Maine

FERTILIZERS influence the size and shape of potatoes, according to results recently published by the New Jersey and the Maine Experiment Stations. At both stations, potash was found to be the most important plant-food element in giving tubers desirable shape.

The two authors of the New Jersey work are Dr. Wm. H. Martin of the New Jersey Station and Dr. Bailey E. Brown of the Bureau of Chemistry and Soils of the U. S. Department of Agriculture. They made a four-year study of "The Influence of Nitrogen, Phosphoric Acid, and Potash on the Number, Shape, and Weight of Potato Tubers." Their work was with Cobblers, a variety considered to be more responsive to nitrogen and less responsive to potash than is the Green Mountain. Twenty-one different fertilizer mixtures with varying percentages of nitrogen, phosphorus, and potash, were used.

The quantity of potash in the fertilizer was found to be the most important factor in influencing the shape of the tubers. The explanation given is that when nitrogen is adequate and potash is too low, growth takes place at the tip of the tuber at a faster rate than it does at the sides, thus resulting in long tubers. With sufficient potash there is more uniform development of the cells, giving shorter and chunkier potatoes.

Nitrogen was found to be the plant food most influential in determining the length of the tubers. The fertilizers that produced the longest tubers were medium to high in both nitrogen and phosphorus but low in potash. When the fertilizers were high in phosphorus and low in both nitrogen and potash, the tubers were narrow and thin.

All of the plant foods influenced yields. When nitrogen was high and

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# Farming Peat *in* Minnesota

*By E. C. Torrey*

Former Publicity Specialist, Minnesota Extension Service

TESTS made in 1931 of the action of phosphate and potash on peat soils of Wadena county in western Minnesota demonstrated that an acre of peat land treated with $4 worth of these fertilizers will yield in two crops $32.80 worth of hay, while an untreated acre will yield only $17.60 worth. Similar results, says the county agent, were obtained with reed canary grass, which is proving to be a very valuable lowland crop for hay and pasture.

Investigational work with commercial fertilizers on peat land was one of the major projects of the Minnesota agricultural extension service in Wadena county in 1931. The original Wadena peat demonstration plots, started by the county agent in cooperation with G. H. Nesom, extension soil specialist, were continued and new plots established on 10 different farms. The objectives are to determine fertilizer deficiencies in different parts of the county and to produce a plentiful supply of high quality forage for livestock.

On the Wadena plot, clover and timothy, seeded May 20, 1930, gave a combined yield of 3.5 tons an acre in the two crops harvested, and reed canary grass returned more than four tons an acre from two cuttings on plots that had been heavily fertilized.

Different quantities of the fertilizers made it clear that low applications do not hold up yields after the first crop as well as heavier applications. However, it was made equally clear that good results will be obtained over a period of two or three years even with as low an application as 150 to 225 pounds to the acre. The conclusion to be drawn, says the county agent, is that a farmer with a small capital and a large acreage of peat land will find it more profitable to fertilize such acreage with a light application than

**Commercial fertilizers doubled the yields on peat. These pictures are of the first crop of clover-timothy, 1931 season. Plot 4, above, received no fertilizer and gave a yield of 1.36 tons per acre. Note the small amount of clover.**

to make heavy applications on a few acres. In two or three years, when yields begin to decline, the soil may be given another light dose.

Plot No. 1 in the Wadena demonstration trials for 1931 was first fertilized in 1930 with 125 pounds of phosphate and 250 pounds of potash and then seeded with clover and timothy. In 1931 the applications were cut to 25 and 50 pounds respectively. The yield of the first cutting of hay in 1931 was 2.66 tons, or practically double the yield, 1.36 tons, from plot 4 which was also seeded to clover and timothy but received no fertilizer.

Another comparison showing even more strikingly what a small investment in fertilizers will do in two seasons on peat land is given by the county agent. Fifty pounds of phosphate and 100 pounds of potash applied per acre boosted the yield of clover-timothy to 2.12 tons in 1930 and to 2.98 tons in two cuttings in 1931, for a total of 5.10 tons, compared to 2.70 tons an acre for the two seasons on the plot that received no fertilizer. The increase, due entirely to phosphate and potash fertilization, was 2.40 tons.

Reed canary grass yielded well with or without fertilizer, but results on this demonstration plot show that the use of fertilizer was a profitable investment. In the two cuttings of 1931, plot No. 1, fertilized with phosphate and potash, yielded 4.05 tons as compared with 2.57 tons from the plot left without fertilizer.

**In 1930, Plot 1, above, received 125 lbs. of phosphate and 250 lbs. of potash. In 1931, the application was 25 lbs. of phosphate and 50 lbs of potash. The yield for the first crop was 2.66 tons. Note the large amount of clover.**

### *Investigate Further*

Since the deficiency of potash in the peat on the Wadena demonstration plot was so striking, it was decided in 1931 to determine the fertilizer requirements of peat bogs in other parts of the county. Fertilizer plots were established on 10 farms. This investigation developed that in most parts of the county both phosphate and potash are needed, in contrast to the peat along Leaf river which requires only potash for good results.

On the Willard Miller farm both phosphate and potash gave marked increase, with potash alone giving better results than phosphate alone. A combination of the two excelled either one alone on clover and timothy. These conclusions were drawn also from the trials on six other farms. On the farm of Fred Mauer, potash alone gave good results on Pealand barley, while phosphate was very poor. Where the two were combined the barley matured more quickly and uniformly.

The general conclusion is that in Wadena county an 0-9-27 fertilizer will give better yields than 0-10-20, since it has a higher percentage of potash to phosphate.

Peat land studies and investigations mean much in Minnesota because it has about 7,000,000 acres of this type of soil, or an area of one-eighth of its total. According to Dr. F. J. Alway, chief of the division of soils of the

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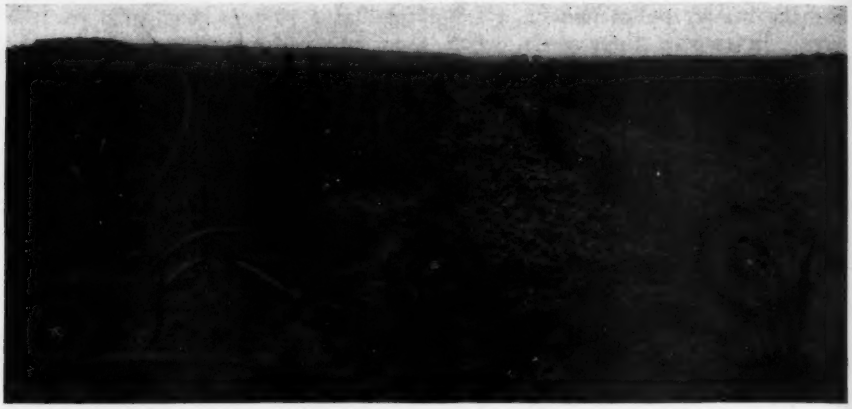

Scene on the J. E. Watson farm near Henryetta, Oklahoma. The row to the left received 400 lbs. of 4-8-10 per acre; the row at the right was unfertilized. Needless to say Mr. Watson is strong for 4-8-10 for onions.

# Result Demonstrations

## *By L. J. McDonald*

Agricultural Agent, Henryetta, Oklahoma, Chamber of Commerce

THE result demonstration has had a great deal to do with the great stride made by Eastern Oklahoma farmers in the use of high-grade commercial fertilizers. It has only been a few years since this section of Oklahoma was farmed by Indians, and virgin soils were plentiful. Since the advent of the plow and the one-crop system of cotton, the soils have been robbed of their fertility and crop yields have decreased in size. Farmers sought a way out and the result demonstration as pioneered by the county agents and fertilizer representatives has achieved remarkable results.

The Henryetta Chamber of Commerce has made liberal use of the demonstration idea in promulgating its agricultural program, especially in the use of high-analysis fertilizers and potash as a top-dressing. More than 45 car loads of onions were shipped from the district in 1931 and every acre was fertilized with a high-analysis fertilizer, mostly 4-8-10. Hundreds of acres of Irish potatoes also were grown and in some instances 600 to 800 pounds of 4-8-10 per acre were used.

Twenty demonstrations were secured this year in the use of 10-0-10 at the rate of 100 pounds per acre as a top-dressing on corn. Various types of soils were selected for the demonstrations and the results have been conclusive in most instances, in spite of a mid-summer drouth of severe proportions.

One grower selected a piece of prairie upland with a clay subsoil that had grown soybeans the previous year. Where no fertilizer was used, the yield was 12.1 bushels per acre. When 100 pounds of 10-0-10 were used as a top-dressing, the yield was 14.0 bushels. Where only 200 pounds of 16 per cent superphosphate were applied, the

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# Fertilizing Tomatoes *Nets* Profit of $101 per A.

*By R. L. Cook*
Soils Department, Michigan State College

DURING 1928, 1929, and 1930, tomato fertilizer experiments were run on the soils experimental field of Berrien sand on the Floyd Judson farm in Lenawee county, Michigan. This is a slightly rolling soil with a grayish-brown loamy sand surface to the depth of six or eight inches.

In 1928, 1,000 pounds of 0-16-0 resulted in a profit* of $21.15 per acre. Adding eight per cent potash, making an 0-16-8, increased the yield enough to swell the profit to $64.49 per acre. A complete fertilizer, 4-16-8, applied at the same rate, increased the total yield to make a profit of $101.80 per acre. Five hundred pounds of 4-16-8 produced a profit of only $46.59.

The 1929 results were quite similar to those of 1928, except that 500 pounds per acre produced just as much fruit as 1,000 pounds per acre.

The three years' results favor the use of 500 pounds of 4-16-8 on this soil. The growing seasons of 1929 and 1930 were both unusually dry, which may explain why 1,000-pound applications of fertilizer were only about

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Judson Tomatoes—1929
Left: 500 lbs. 0-16-16 Right: No fertilizer

* The term "profit" as used in this article means the value of the increase in yield minus the cost of the fertilizer. The price of tomatoes is considered to be $10 per ton and the cost of fertilizer is calculated on the basis of $3.75 per unit for nitrogen, 90 cents per unit for phosphoric acid, $1.15 per unit for potash, and $12 per ton overhead cost.

# *The* Inquiring Mind *and the* Seeing Eye

*By Dr. A. S. Alexander*

University of Wisconsin

CORN—CORN—CORN!! Ransom A. Moore, agronomist of the Wisconsin Agricultural Experiment Station, is talking to a great gathering of farmers, and shoots out those words like bullets from a machine gun. They go reverberating among the rafters of the lofty room. They echo throughout the State, and have circled the globe; for corn varieties, grandly developed in all of their beneficial qualities by this plodding, persevering professor, have become famed and appreciated in the fertile fields of the Nile Valley, and on farms in the Transvaal, in Persia, Germany, Hungary, China, and Japan.

Ransom Asa Moore—the personification of vitality, enterprise, and definite purpose in life—is so endowed with enthusiasm about his beloved corn that his voice vibrates with emotion when he sounds forth its praises. He earnestly appeals to his hearers to join with him in perfecting and popularizing the best sorts of corn, until they shall have supplanted all mongrel and mediocre counterfeits and everywhere will bring pleasure, profit and prosperity to their growers. In this praiseworthy propaganda he has eminently succeeded. Formerly, Wisconsin farmers were growing approximately 100 varieties of corn. There were 15 to 20 kinds in each bushel of the seed sown, and not a single standard type in the State. Now, the 100 mongrel strains of 30 years ago have been reduced to about six standard varieties, and Wisconsin has become one of the foremost States in the production of corn. Professor Moore's breeding work with other grains has been equally notable.

The young people of Wisconsin have flocked to the feet of Professor Moore for light and leading and, in turn, have influenced the old folk to adopt and perfect new methods of grain production. His work as conductor of the Short Course in Agriculture at the University of Wisconsin, his organization of the Wisconsin Experiment Station Association, and his fathering and furthering of the 4-H Boys' and Girls' Clubs have made him a most dominant and useful figure and factor in the farming business of the State. The University of Wisconsin "did itself proud," indeed, when it conferred on him the honorary degree of "Master of Arts," at its commencement exercises in June, 1932, in recognition of his meritorious work and splendid achievements.

### *From Pioneer Stock*

Professor Moore was born in a little farm home at Kewaunee, Wisconsin, June 5, 1861. He came of fine old pioneer "down east" stock. His forebears came to America from England in 1622. His father was Seth Moore, and his mother Johanna Werner. His grandfather, Seth Moore Sr., was born in 1800, near where Amherst, Massa-

chusetts now stands. His great-grandfather, Joseph Moore, enlisted as a messenger boy under General George Washington, and served throughout the Revolutionary War; then he married, and his entire family was born in Massachusetts. Soon after the war they moved to Burlington, Vermont, and in 1810, crossed Lake Champlain and located near the village of Plattsburg, N. Y., where they lived during the war of 1812.

Joseph Moore was a woodsman, and helped to get out the timber for the American war vessels. Four of his sons were in the army, and the old man also enlisted, and "fit" during the siege of Plattsburg.

Seth Moore Senior's grandfather, Joan Moore, was a hunter, trapper, and Indian fighter. For services rendered in the French and Indian wars of 1754-63, he was given a large tract of land where the city of Detroit, Michigan, is now located. Later, he was captured by the Indians and burned at the stake, near the grant of land he had received from the Crown.

Professor B. D. Leith, a member of Professor Moore's staff, hybridizing wheat.

Professor Moore's grandfather was also a skilled woodsman and deadly rifle shot. He had many thrilling encounters with panthers in those early days. Considering the ability of Professor Moore's ancestors as hunters and trappers, it is not strange that he inherited their prowess and, in time, became known as "The Hunter of Kewaunee." His love of nature and the pleasures and excitement of the chase have not lessened as the years have gone by. Every year he spends his vacations in the wilds of northern Wisconsin, where he lives an outdoor life, hunting, trapping, and fishing. As late as October, 1927, he encountered a trapped and savage catamount and killed it with his hunting knife; but not before it had slashed his cheek and torn his clothing with its teeth and claws. It was R. A. Moore who finally cleaned the lynx and catamount "varmints" out of the Kewaunee country.

In 1820, Professor Moore's grandfather married and moved west, settled near Cleveland, and took up land. In 1838, they moved with their children, in two covered wagons, to Wisconsin, and purchased land near Racine, on Lake Michigan. There they got out staves and hoop-poles for the cooper shops that supplied the fisheries. Later, they moved to the locality of Reedsburg, Wisconsin, bought land, and devoted much time to hunting and trapping. After a while they returned to Racine, and in 1853 sold their property there and settled in the little village of Kewaunee. They had bought land some seven miles up the Kewaunee river, and there Professor Moore's father grew up, worked, and hunted. There he married, and there "R. A." was born and lived the life of a typical pioneer, developing hardiness and sturdiness of body and character, which were to stand him in good stead throughout life. He helped his father wrest a farm from the primeval forest, tended the family lime-kilns, and by their lurid light at night, studied

every book he could lay hands on. There, too, he became an accomplished fisherman, hunter, and trapper, tramping periodically to Green Bay, 30 miles away, to sell his furs. It was in Dikeman Swamp, Kewaunee county, that he learned to trap catamounts or panthers.

### *Accident Determined Career*

One day, when working at the limekilns, the agronomist-to-be sorely injured his back. That accident entirely changed his line of work. He could no longer lift heavy weights, nor do the hard work of the farm; therefore he determined to make teaching his life's vocation. After studying in the local schools, he was granted a teacher's certificate, in 1882, and taught school in his home locality at $24 a month, but made more than that by hunting on Saturdays and during vacations. Later, he taught at another school for three years, at a higher salary; then a new school was built in his home county, and he taught there for another two years. Next, he was made principal of the Chatton school, where he remained for two years. During parts of 1884 and 1887, he studied in the State Normal School at Oshkosh. On July 17, 1889, he married Nettie Rogers, daughter of the late Judge Rogers and Mrs. Janet Rogers of Kewaunee. Two sons were born to them. Roger became a most promising mathematician and teacher at the University of Wisconsin; but succumbed to influenza in an officers' training camp at the time of the World War. George, the elder son, is a successful medical practitioner.

At the time of his marriage, Professor Moore served as County Superintendent of Schools, with 44 district schools and two high schools under his supervision. While officiating in that position, he did such effective and aggressive work in organizing the young people of his locality that W. A. Henry, Dean of the Wisconsin College of Agriculture, became interested and impressed, the outcome being that he invited the young "live wire" to become manager of the Short Course in Agriculture. The invitation was accepted, and when he reached Madison, December 24, 1895, Dean Henry welcomed him with the inquiry: "Do you wish merely to aid me in the running the Short Course or would you like to take it entirely and either sink or swim?" Moore answered that he preferred to sink or swim; but he did not *sink!* Indeed, he made a splendid success of the undertaking, and of many another kindred project. Speaking of his experience, he has said: "During the 14 years I had charge of the Short Course, Dean Henry never interfered with the management." Thus having a free hand, he was able to develop the course in his own unique and practical way.

The Short Course was not popular at its inception. "R. A." traveled all over the State by train, horse-and-buggy, and bicycle, got many boys interested, and in time the class rooms overflowed. Graduates began going forth each spring, to become leaders in the farming affairs of their communities. It was the first Short Course in Agriculture to be established at a State University. Other States soon "followed suit." The purpose of the Short Course was to call young men from the farms to Madison during the winter months, and fit them to farm in a more remunerative way and on a much higher plane than that which then pertained in Wisconsin. "Its ultimate aim was to put farming on a business basis" (Moore); and in that it has eminently succeeded.

### *Wide Range of Influence*

The Short Course originated in January, 1886, ran for 12 weeks. In 1892, it was changed to a course of two winters of 12 weeks each; then two weeks were added to each winter's course, and certificates of graduation were granted on completion of the prescribed work. The course now runs for 15 weeks, during each of two winters. Each winter's course is di-

PROFESSOR RANSOM A. MOORE

vided into three terms of five weeks each. Up to 1928, approximately 8,000 students had taken the course. These young men have been instrumental in making Wisconsin renowned for profitable dairying, and fine livestock, and purebred seed production. Former Short course men are today the most progressive and successful farmers of the State, and the course is recognized as of outstanding educational importance.

Professor Moore's preliminary training in Kewaunee county fitted him well for his work as Director of the University Short Course in Agriculture. When County Superintendent of Schools in 1892, he was called upon to direct and manage the Kewaunee County Fair. "In order to revitalize this institution," says his colleague, Professor L. F. Graber, "and make it function more efficiently, Professor Moore sought the support of the boys and girls of the county, and availed himself of the direct contact of the county schools. Utilizing the leader-

(*Turn to page* 26)

**Work and Play—Gardening is irksome work to some farm boys and girls, but there probably will be more willingness on their part this year, when a good garden means so much in cutting the whole family's living expenses. Below: There is no better fun for a boy than a hunt for a hen's stolen nest.**

Work and Play—This child's task has been made easier by eliminating tangling of the singletree by means of a home-made device, held up from under the animal's feet by strips of belting over the back. Below: Whatever the tasks, there is always time to enjoy a pony, if a boy is fortunate enough to possess one.

Above: A typical farm scene in many parts of the American continent at this time of the year.

Left: County Agent O. W. Mansfield is shown here weighing out fertilizer for a corn experiment in cooperation with Albert Eichsteadt at Hanna, Indiana.

# The Editors Talk

## Intelligent Leadership

It is always interesting to study the fruits of intelligent leadership. We may never be able to prove the immortality of the soul except from the feeling innate in us that it can never die, but it is possible to prove that the result of leadership survives long after the leader passes from the scene of action.

This thought has come after a recent visit to the section around Hammond, Louisiana, a region we have read about for years, first, as accounts of numerous violations of the law that finally brought to the parish the name of "Bloody Tangipahoa," and later, of the efforts of Captain J. F. Merry of the Illinois Central Railroad to develop the territory into a garden spot from which to supply the cities along the northern limits of his lines early fruits and vegetables. Possibly only a few of those who now so successfully grow these crops in this section would recognize the name of Merry if it were called, but history is bound to accord him the honor of having brought about an almost magical transformation of an entire section in a comparatively short space of time.

Captain Merry's work began after the sawmills had left this territory all but a barren waste of cut-over lands. He foresaw the possibilities for growing early truck crops, especially strawberries, and his railroad provided the facilities for placing such perishable products on the tables of northern cities almost as fresh as when plucked from the plants. The consequence was that what was a luxury one year became a necessity the next, and a thriving business was established. Lands that were thought to have no agricultural value became, with the use of fertilizers, manures and good tillage, the most productive of a State noted for its rich soils. The people prospered, towns sprung up and began to grow, and today one can see little difference between the civilization of what was once "Bloody Tangipahoa" and that of New Orleans, long famous as a world metropolis.

The vision of one man made such a change possible and it is presently a cure for the blues to one who has heard nothing but depression talked for a year to go there and be told about the $9,000,000 berry crop harvested and sold and about the other crops which followed. These crops are being produced on a relatively small part of the total acreage, under farm practices that are yet far from perfect. Like every other similar country, the differences between the best and poorest methods of fertilization makes the difference between profit and loss. Ask the leaders and one will be told how certain growers fertilize and cultivate well and make high yields of quality products while others follow in a haphazard way and merely get by.

These leaders realize what must be done to meet the keen competition of rival sections and that nature cannot be depended upon every year to favor the section as it has this one. But it is safe to conclude that their intelligence will continue the advancement of this section which owes its beginning to Captain Merry.

## Some Suggestions

In these puzzling days every suggestion for meeting the present situation receives attention. When suggestions come from as well-grounded and experienced an agricultural economist as Dr. G. F. Warren of Cornell University, they assume added interest and importance.

In a recent issue of "Marketing Activities," issued by the Bureau of Agricultural Economics, U. S. Department of Agriculture, Dr. Warren asserts that scientific research, agricultural extension training, the use of improved machinery, and greater output per man are the major ways in which the depression can be met.

"The farmer should not work land that does not give a high output per hour of labor," Dr. Warren says. "He should have a business large enough fully to employ all his time and that of his labor. He must get more bushels of grain and more pounds of milk per hour of labor. The chief ways of doing this are by obtaining more milk per cow, higher crop yields per acre, and by using labor more efficiently.

"Higher crop yields should be obtained by dropping out of use the fields that do not give high yields. Such fields may be used for pasture, or, if very poor, may be left idle. This often means renting or buying all or part of an adjoining farm and working only the best land on both.

"More care in using good seed, attention to disease control, and the like are essential. Such changes mean more production per man, but mean fewer men and reduction in total agricultural production. How much reduction occurs depends on how many acres are thrown out of use or into lower classes of use. Labor-saving plans are often more important than machinery.

"Since the primary difficulty at the present time is the discrepancy between producers' prices and consumers' prices, this is particularly severe on agriculture. Most manufacturers buy at wholesale prices which are low and sell at wholesale prices which are also low. But in general agriculture buys at retail prices which are high and sells at wholesale prices which are low.

"It is particularly important that farmers attempt to get nearer to consumers before they sell and that they reach nearer to wholesalers in their buying. Some farmers are so near cities that they can truck their products to the city, but for most farmers, the feasible way of doing these two things is through cooperative associations."

We are pleased to pass these suggestions along to our readers who are looking for sound principles against which to check their agricultural programs and around which they can build their future plans.

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## More Green Foods

Health advocates, as well as market gardeners, will be particularly interested in a recent statement by the Bureau of Agricultural Economics, U. S. Department of Agriculture, to the effect that green foods consumption in the United States has doubled in the last seven years. The consumption of stored root vegetables has declined proportionately.

The statement is made on the basis of statistical reports from our large cities. It attributes the increase in the consumption of green foods to the growing popular appreciation of their value in the diet; the constant abundance of green goods at moderate prices; improvements in shipping, grading, packing, and handling practices; and the general attractive display of green foods in stores.

# REVIEWS

**This section contains a short review of some of the most practical and important bulletins, and lists all recent publications of the United States Department of Agriculture and the State Experiment Stations relating to Soils, Fertilizers, Economics, and Crops. A file of this department of BETTER CROPS WITH PLANT FOOD would provide a complete index covering all publications from these sources on the particular subjects named.**

TOBACCO is probably more sensitive to potash deficiency than any other crop grown in the country. Not only must the plant have a plenteous supply of available potash, but it is very exacting as to the form of the potash it uses. This is due partly to the peculiarities of the plant itself and to the particular utilization of the plant after its harvest.

On account of the economic importance of tobacco, and its peculiar requirements, an extensive series of experiments was begun in 1921 at the Connecticut Agricultural Experiment Station to investigate some of the problems of fertilization of the crop. Progress reports of some of this work have been published previously, but the results of all these investigations have now been collected and discussed in Connecticut Agricultural Experiment Station Bulletin 334, "Potash Requirements of The Tobacco Crop," by P. J. Anderson, T. R. Swanback, and O. E. Street.

The action of potassium, its importance to starch and protein formation, cell division or growth, and other activities in the plant are mentioned. This nutrient probably also plays other important roles in the plant, that are not yet well understood. It seems to be connected with nitrate absorption, and to make the plant more resistant to drought. The beneficial influence of potash in making the plant more resistant to diseases is well known. It promotes the burn of the cigar, having more influence on this property than any other element. Added to these many important functions of potash, is the fact that tobacco contains larger quantities of potassium than of any other nutrient absorbed from the soil.

When the tobacco plant lacks potash, it exhibits definite and well-known "hunger signs," such as yellow mottling of the margins and tips of leaves, puckering of the surfaces, and later curling under of the edges of the leaves, etc. These are well described by the authors.

Anything the farmer can do to increase the potash content of the tobacco plant is obviously important. It was found that the percentage of potash found in the plant was primarily dependent on the quantity of the potash applied to the soil in the fertilizer. The amount of calcium and magnesium applied or present in the soil also influences the potash content of the plant, since the total of the three bases is more or less a constant. Thus, the presence of excessive amounts of calcium and magnesium in the soil is to be avoided in order that there be no danger of reducing the potash content of the plant.

The native potash in the soil was given consideration, and it was found that, while rather large quantities were present, it was to a large extent very insoluble and unavailable to the plant. Some practices tended to increase the availability of this native potash, but not enough to satisfy the needs of the crop. Methods of utilizing as much of this potash as possible are given.

An interesting discussion of the way potash influences the burn of tobacco

is given. It was shown that the way the potash was combined with other materials in the plant had a striking influence on the burn, although all potash compounds improved the burn over a leaf not containing much potash.

The amount of potash that should be used in the fertilizer is naturally of importance to the grower. The authors report investigations on both yield and quality as influenced by potash fertilization. Considering both these factors, they believe that about 200 pounds per acre of potash should be given annually to the soils on which they were working. The yield was maintained fairly well with an application of 100 pounds of potash, but the quality was well below the tobacco receiving the 200-pound application.

The various carriers of potash were used, but no great differences could be shown with them. (Chloride-containing carriers, of course, were not used in this work).

Other investigations of value and interest to the tobacco grower are contained in this bulletin and all the work is supplemented by a discussion of other pertinent literature on the subject. The bulletin undoubtedly is one of the best publications we have on the relationship of potash to the tobacco crop and will serve as an authoritative source of information on the fertilization of tobacco.

## Fertilizers

The State College of Washington has issued its latest fertilizer recommendation for the State in Extension Bulletin 166, "Fertilizer Recommendations for Washington Soils." The publication differs somewhat from many such bulletins in that it recommends the amounts of fertilizer materials to use rather than set analyses. The farmer then can decide whether to use these materials or a mixed fertilizer of an analysis which will supply an equivalent amount of plant food. The use of fertilizers is wisely considered as an integral part of a farming program. It is only in this way that they can be most efficiently used. An unusual feature of these recommendations is that they were prepared by an Advisory Council on Soils and Fertility on which is represented the State College, the Extension Service, the Experiment Station, State Chamber of Commerce, County Agents, farmers, bankers, the fertilizer industry, and others interested in the productivity of Washington soils.

*"Commercial Fertilizers—Agricultural Minerals, 1931," Dept. of Agr., Sacramento, Calif., Spec. Bul.* 111.

*"Lime for Maine Farms," Univ. of Me., Orono, Me., Bul.* 202, *Dec.*, 1931, *A. K. Gardner.*

*"Mixing Fertilizers on the Farm," Agr. Exp. Sta., St. Paul, Minn., Spec. Bul.* 147, *Jan.*, 1932, *G. H. Nesom and C. O. Rost.*

*"Handling Farm Manure," Col. of Agr., Columbia, Mo., Cir.* 279, *Sept.*, 1931, *Harold F. Rhoades.*

*"A Progress Report on the Phosphate Deficiency of Montana Soils," Agr. Exp. Sta., Bozeman, Mont., Bul.* 259, *Apr.*, 1932, *Iver J. Nygard.*

*"Inspection of Commercial Fertilizers for* 1931," *Agr. Exp. Sta., Durham, N. H., Bul.* 263, *Dec.*, 1931, *T. O. Smith and S. J. Fisher.*

*"Analyses of Commercial Fertilizers and Ground Bone; Analysis of Agricultural Lime,* 1931," *Agr. Exp. Sta., New Brunswick, N. J., Bul.* 536, *Jan.*, 1932, *Charles S. Cathcart.*

*"Fertilizer Registrations for* 1932," *Agr. Exp. Sta., New Brunswick, N. J., Bul.* 538, *Feb.*, 1932, *Charles S. Cathcart.*

*"Fertilizers for Vegetable Crops," N. Y. State Col. of Agr., Ithaca, N. Y., Bul.* 230, *Mar.*, 1932, *F. O. Underwood and J. E. Knott.*

*"Experiments on Rate and Time of Applying Sodium Nitrate," Agr. Exp. Sta., Clemson College, S. C., Bul.* 283, *Apr.*, 1932, *W. B. Rogers.*

*"The Composition and Fertilizing Value of Sewage Sludge," Agr. Exp. Sta., College Station, Tex., Bul.* 445, *Apr.*, 1932, *G. S. Fraps.*

*"Availability to Plants of Potash in Polyhalite," Agr. Exp. Sta., College Station, Tex., Bul.* 449, *Apr.*, 1932, *G. S. Fraps.*

## Soils

The importance of soil reaction in the production of crops is usually recognized, but specific information on this may be lacking in many cases. To fill this need for vegetable crops on Long Island, very complete and practical information is given by P. H.

Wessels in Bulletin 536 of the Cornell University Agricultural Experiment Station entitled, "Soil Acidity Studies with Potatoes, Cauliflower, and Other Vegetables on Long Island."

After an interesting review of the literature on the subject, the author reports the results of his experimental work in which the crops were grown on a series of plots with wide variation in acidity. The yields varied greatly depending on reaction and, as was to be expected, the optimum reaction was different for the several crops studied. Potatoes gave best results when the reaction was just acid enough to control scab, with a pH between 4.8 and 5.4; cauliflower did best with a reaction of pH 5.5 to 6.6. The optimum reaction varied not only with the crop but also with the variety within the crop. Results with several other crops are also given, all of which show the importance of controlling the soil reaction if good yields are to be obtained.

Dr. P. M. Harmer's latest bulletin, "Muck Soil Management for Onion Production," gives brief, practical, and complete information on this subject. The type of muck or peat soil adapted to onion growing, the use of soil amendments, soil reaction control, fertilization, drainage, seedbed preparation, wind injury, varieties, planting, cultivation, control of diseases and insect pests, harvesting, and storage are all considered. Worthy of mention is the table for fertilizer and soil amendment recommendations prepared by the author. All growers of onions will find material of interest in this bulletin and those on muck soils are especially fortunate in having such a handy and well-prepared publication available for their use. (Michigan State College Extension Bulletin 123).

The problem of attempting to determine the fertilizer needs of a soil by chemical methods has long been worked on, but not always with successful results. The low concentrations of solutions obtained from the soil in this work have made differentiation among soils very difficult. More recently, delicate reactions producing different colors or intensities of colors have been developed and adapted to soil testing work with highly promising results. These tests, while delicate, yet are usually quickly and easily performed without the use of elaborate apparatus. Dr. M. F. Morgan gives six such tests that he has worked out in Connecticut Agricultural Experiment Station Bulletin 333, "Microchemcial Soil Tests." These tests are for the reaction or acidity of the soil, the available phosphorus, nitrate nitrogen, ammonia nitrogen, and active aluminum in the soil. Preparation of the reagents, the procedure of the test, and color chart are given, which make this bulletin of interest to those working on soil fertility problems.

*"The Use of Green Manures in Soil Improvement," Col. of Agr., Columbia, Mo., Ext. Cir. 280, Sept., 1931, M. F. Miller.*

*"Method and Purpose of a Soil Survey," Agr. Exp. Sta., Bozeman, Mont., Cir. 139, Jan., 1932, William DeYoung.*

*"Soil Treatments for the Control of Diseases in the Greenhouse and the Seedbed," N. Y. State Col. of Agr., Ithaca, N. Y., Bul. 217, Aug., 1931, A. G. Newhall and Charles Chupp.*

*"The Chemical Composition of the Muck Soils of New York," Agr. Exp. Sta., Ithaca, N. Y., Bul. 537, Jan. 1932, B. D. Wilson and E. V. Staker.*

*"Soil and Field-Crop Management of Cayuga County, New York," "Pastures: Their Improvement and Management," Agr. Exp. Sta., Ithaca, N. Y., Bul. 538, Jan., 1932, A. F. Gustafson, and D. B. Johnstone-Wallace.*

*"Control Soil Erosion by Crops, Terraces, and Dams," Col. of Agr., Madison, Wis., Cir. 249, Dec., 1931, O. R. Zeasman.*

*"Soil Survey of Elbert County, Georgia," U. S. D. A., Washington, D. C., No. 15, Series 1928, G. L. Fuller and B. H. Hendrickson.*

*"Macoupin County Soils," Agr. Exp. Sta., Urbana, Ill., Soil Report No. 50, Jan., 1932, E. A. Norton, R. S. Smith, E. E. DeTurk, F. C. Bauer, and L. H. Smith.*

*"Fulton County Soils," Agr. Exp. Sta., Urbana, Ill., Soil Report No. 51, Mar., 1932, R. S. Smith, E. E. DeTurk, F. C. Bauer, and L. H. Smith.*

*"Soil Survey of Stanton County, Nebraska," U. S. D. A., Washington, D. C., No. 3, Series 1929, F. A. Hayes, W. J. Moran, and R. L. Gemmell.*

*"Soil Survey of The Freehold Area, New Jersey," No. 33, Series 1927, L. L. Lee and J. E. Tine.*

*"Soil Survey of Person County, North Carolina," No. 14, Series 1928, R. C. Jurney, S. R. Bacon, and J. J. Morgan.*

## Crops

The U. S. Department of Agriculture's "Yearbook of Agriculture—1932" was recently put into circulation. While somewhat smaller than usual, the volume is just as interestingly illustrated and contains a great variety of short articles on the new things in agriculture. The book is the Secretary of Agriculture's report to the President, and besides the articles, contains up-to-date statistics. No more complete picture of American agriculture can be obtained than that presented in the Yearbook.

*"Annual Report Extension Service," Univ. of Ark., Little Rock, Ark., Ext. Cir. 292, Mar., 1932.*

*"Spacing Studies with Asparagus," Agr. Exp. Sta., Berkeley, Calif., Bul. 525, Apr., 1932, H. A. Jones.*

*"Planting Season for Sugar Beets in Central California," Agr. Exp. Sta., Berkeley, Calif., Bul. 526, Apr., 1932, Katherine Esau.*

*"Potato Production in California," Univ. of Calif., Berkeley, Calif., Cir. 61, Apr., 1932, D. R. Porter.*

*"Alfalfa Seed Production," Agr. Col., Fort Collins, Colo., Bul. 314-A, Mar., 1932, John N. Spencer and T. G. Stewart.*

*"Proso or Hog Millet in Colorado," Agr. Col., Fort Collins, Colo., Bul. 383, Jan., 1932, J. F. Brandon, Alvin Kezer, J. J. Curtis, and D. W. Robertson.*

*"Quality of Alfalfa Seed Sold in Colorado, 1930-1931," Agr. Col., Fort Collins, Colo., Bul. 389, Mar., 1932, Anna M. Lute.*

*"Hotbeds," Agr. Col., Storrs, Conn., Bul. 159, Dec., 1931, Albert E. Wilkinson.*

*"Coldframes," Agr. Col., Storrs, Conn., Bul. 160, Dec., 1931, Albert E. Wilkinson.*

*"Tobacco Substation at Windsor—Report for 1931," Agr. Exp. Sta., New Haven, Conn., Bul. 335, Mar., 1932, P. J. Anderson, T. R. Swanback, and O. E. Street.*

*"Growing Annual Flowering Plants," Agr. Exp. Sta., Gainesville, Fla., Press Bul. 443, Feb., 1932, W. L. Floyd.*

*"A Quarter Century of Progress," Ga. State Col. of Agr., Athens, Ga., Vol. XX, Bul. 420, Jan., 1932, Andrew M. Soule.*

*"Agricultural Extension Work in Indiana—Report of the Director, July 1, 1930, to June 30, 1931," Purdue University, Lafayette, Ind., J. H. Skinner and T. A. Coleman.*

*"Alfalfa for Indiana Farms," Purdue University, Lafayette, Ind., Leaflet 158, Apr., 1932.*

*"Management of Tobacco Plant-beds," Col. of Agr., Lexington, Ky., Cir. 77, Dec., 1931, E. J. Kinney.*

*"Annual Report for the Year Ended December 31, 1930," Col. of Agr., Lexington, Ky., Cir. 245, T. R. Bryant.*

*"Report of the Agricultural Experiment Station for the Years 1929-1931," Agr. Exp. Sta., Baton Rouge, La., C. T. Dowell.*

*"Biennial Report of the Northeast Louisiana Experiment Station, 1930-1931," Agr. Exp. Sta., Baton Rouge, La., C. B. Haddon.*

*"Biennial Report of the Rice Experiment Station, Crowley, Louisiana, 1930-1931," Agr. Exp. Sta., Baton Rouge, La., J. Mitchell Jenkins.*

*"Report of the Fruit and Truck Experiment Station, Hammond, Louisiana, 1931," Agr. Exp. Sta., Baton Rouge, La., B. Szymoniak.*

*"Annual Report of the North Louisiana Experiment Station, Calhoun, Louisiana, 1931," Agr. Exp. Sta., Baton Rouge, La., Sidney Stewart.*

*"Maine Potatoes," Univ. of Me., Orono, Me., Bul. 201, Dec., 1931, A. K. Gardner, V. C. Beverly, D. W. Reed.*

*"Vegetable Growing in Maine," Univ. of Me., Orono, Me., Bul. 203, Jan., 1932, Richard M. Riley.*

*"Annual Report for the Fiscal Year Ending Nov. 30, 1931," Agr. Exp. Sta., Amherst, Mass., Bul. 280, Feb., 1932.*

*"The Quarterly Bulletin," Agr. Exp. Sta., East Lansing, Mich., Vol. XIV, No. 4, May, 1932.*

*"Growing Asparagus for the Canning Factory," Mich. State Col., East Lansing, Mich., Ext. Bul. 90, Mar., 1932, Charles H. Mahoney.*

*"Forty-fourth Annual Report for the Fiscal Year Ending June 30, 1931," Agr. Exp. Sta., A. & M. College, Miss.*

*"Report of the Holly Springs Branch Experiment Station, 1931," Agr. Exp. Sta., A. & M. College, Miss., Bul. 296, Dec., 1931, Otis B. Casanova.*

*"Report of the South Mississippi Branch Experiment Station for 1931," Agr. Exp. Sta., A. & M. College, Miss., Bul. 297, Dec., 1931, J. C. Robert, W. S. Anderson, and W. W. Welborne.*

*"The Farmer and the College—Report of the Extension Service, Missouri College of Agriculture, for 1931," Univ. of Mo., Columbia, Mo., Cir. 285, Feb., 1932, R. R. Thomasson.*

*"Better Methods of Potato Production," Univ. of Mo., Columbia, Mo., Cir. 286, Mar., 1932, J. T. Quinn and T. J. Talbert.*

*"Pollination of the McIntosh Apple," Agr.*

*Exp. Sta., Bozeman, Mont., Bul. 256, Feb., 1932, F. M. Harrington and W. E. Pollinger.*

*"Studies of Prairie Hay in North Central Nebraska," Agr. Exp. Sta., Lincoln, Neb., Res. Bul. 60, Mar., 1932, F. D. Keim, A. L. Frolik, and G. W. Beadle.*

*"Extension Work in New Hampshire, 1931," Univ. of N. H., Durham, N. H., Ext. Bul. 40, Mar., 1932, J. C. Kendall.*

*"Raspberries and Other Bramble Fruits," N. Y. State Col. of Agr., Ithaca, N. Y., Bul. 224, Feb., 1932, Joseph Oskamp.*

*"Growing Potatoes in North Dakota," Agr. Col., Fargo, N. D., Cir. 110, Mar., 1932, A. F. Yeager.*

*"Growing of Greenhouse Tomatoes," Agr. Exp. Sta., Wooster, Ohio, Bul. 499, Feb., 1932, I. C. Hoffman.*

*"Fifty-year Index to Personnel and Publications of the Ohio Agricultural Experiment Station," Agr. Exp. Sta., Wooster, Ohio, Bul. 501, Apr., 1932.*

*"The Bimonthly Bulletin," Agr. Exp. Sta., Wooster, Ohio, No. 155, Mar.-Apr., 1932.*

*"The Bimonthly Bulletin," Agr. Exp. Sta., Wooster, Ohio, No. 156, May-June, 1932.*

*"Reports of Ohio County Experiment Farms, 1930," Agr. Exp. Sta., Wooster, Ohio.*

*"Development of the Klamath County Potato Industry," Agr. Col., Corvallis, Ore., Ext. Bul. 437, Sept., 1931, F. L. Ballard.*

*"Pasture Improvement," Agr. Exp. Sta., State College, Pa., Leaflet 23, Jan., 1931, J. B. R. Dickey.*

*"Growing Good Tobacco," Clemson Agr. Col., Clemson College, S. C., Cir. 118, Feb., 1932, B. F. Williamson.*

*"Sweet Potato Seed Selection and Treatment," Clemson Agr. Col., Clemson College, S. C., Information Card No. 42, Feb., 1932, Alfred Lutken and E. H. Rawl.*

*"Annual Report of the Director for the Fiscal Year Ending June 30, 1931," Agr. Exp. Sta., Brookings, S. D., James W. Wilson.*

*"Sudan Grass for Summer Pasture," Agr. Exp. Sta., Knoxville, Tenn., Cir. 44, Mar., 1932, L. R. Neel.*

*"Storage Experiments with Texas Citrus Fruit," Agr. Exp. Sta., College Station, Tex., Bul. 446, Apr., 1932, W. H. Friend and Walter J. Bach.*

*"Abstracts of Bulletins 421-441, Circulars 59-60 and other Publications During 1931," Agr. Exp. Sta., Col. Sta., Tex., Cir. 61, Dec., 1931, A. D. Jackson.*

*"Gardening," A. & M. Col. of Texas, Col. Sta., Tex., Bul. B-70, Dec., 1931, J. F. Rosborough and Frank S. Jamison.*

*"Cantaloupes," A. & M. Col. of Texas, Col. Sta., Tex., Cir. C-90, Feb., 1932, R. R. Reppert.*

*"Growing Alfalfa Seed," Agr. Exp. Sta., Logan, Utah, Cir. 97, Mar., 1932, John W. Carlson.*

*"Information for Virginia Fruit Growers," A. & M. Col., Blacksburg, Va., Bul. 126, Feb., 1932.*

*"Some Results of Extension Work in Agriculture and Home Economics in Virginia in 1931," A. & M. Col., Blacksburg, Va., Bul. 127, Mar., 1931, John R. Hutcheson.*

*"Department of Agriculture-Immigration of Virginia," Dept. of Agr., Richmond, Va., Bul. 293, May, 1932.*

*"The Home or Club Garden," State Col. of Wash., Pullman, Wash., Bul. 168, Apr., 1932, J. T. Bregger.*

*"Alfalfa in Western Washington," Agr. Ext. Serv., Pullman, Wash., Cir. 18, Mar., 1932, Leonard Hegnauer.*

*"Inoculate Legumes to Improve the Crops and Enrich the Soil," Col. of Agr., Madison, Wis., Cir. 252, Feb., 1932, I. L. Baldwin.*

*"Forty-first Annual Report of the University of Wyoming, 1930-1931," Agr. Exp. Sta., Laramie, Wyo., J. A. Hill.*

*"Directory of Field Activities of the Bureau of Plant Industry," U. S. D. A., Washington, D. C., Misc. Pub. 129, Dec., 1931.*

*"Workers In Subjects Pertaining to Agriculture in State Agricultural Colleges and Experiment Stations, 1931-1932," U. S. D. A., Washington, D. C., Misc. Pub. 134, Mar., 1932, Mary A. Agnew.*

*"Barley—Culture, Uses, and Varieties," U. S. D. A., Washington, D. C., Farmers' Bul. 1464, Feb., 1932, Harry V. Harlan.*

*"Common Errors in Cotton Production," U. S. D. A., Washington, D. C., Farmers' Bul. 1686, Jan., 1932, O. F. Cook.*

*"Planting Black Walnut," U. S. D. A., Washington, D. C., Leaflet No. 84, Jan., 1932, W. R. Matoon and C. A. Reed.*

## Economics

*"Farm Practices That Pay," Agr. Exp. Sta., Urbana, Ill., Cir. 389, Mar., 1932, H. C. M. Case and M. L. Mosher.*

*"More Profitable Farming in Northeast Minnesota," Agr. Exp. Sta., St. Paul, Minn., Spec. Bul. 139, June, 1931, W. L. Cavert and G. A. Pond.*

*"The Economics of Bean Production and Marketing in Montana," Agr. Exp. Sta., Bozeman, Mont., Bul. 258, Mar., 1932, R. R. Renne.*

*"A Two-year Analysis of Farm Organization Practices in the Middle Rio Grande Conservancy District," Agr. Exp. Sta., State College, N. M., Bul. 196, Dec., 1931, P. W. Cockerill and A. L. Walker.*

*"Fruit-farm Management," N. Y. State Col. of Agr., Ithaca, N. Y., Bul. 219, Jan., 1932, T. E. LaMont.*

*"The New York State 1932 Agricultural Outlook," N. Y. State Col. of Agr., Ithaca, N. Y., Ext. Bul. 227, Feb., 1932, V. B. Hart, M. C. Bond, L. M. Vaughan, and P. V. Kepner.*

*"Agricultural Outlook for South Carolina, 1932," Clemson Agr. Col., Clemson College, S. C., Cir. 117, Jan., 1932.*

# The Inquiring Mind

(*From page 15*)

ship of the local teachers, he stimulated amongst the boys and girls grain and other agricultural contests. He encouraged teachers to set up competitive educational exhibits from the various school districts of Kewaunee county." This enterprise was a splendid success, and it was his remarkable capacity for leadership with young people that caused Dean Henry to appoint him Assistant to the Dean of the Wisconsin College of Agriculture.

### *Young People's Contests*

Soon after he began work as Director of the Short Course, Professor Moore recognized the need of more intimate association with the boys and girls of Wisconsin, such as he had established in Kewaunee county. To that end, he began, about 1904, to distribute superior grains to boys and girls for what he termed "Young People's Contests." In this work he cooperated directly with the County Superintendents of Schools, supplying them with purebred seeds for the contests, which were conducted under definite rules and regulations. This project soon grew to immense proportions, and contests were held throughout the State. The winners were given free trips, for a week's course in grain production at the College of Agriculture.

In 1914, Professor Moore found it necessary to give up the directorship of the Short Course to devote his entire attention to the work of directing the newly established Department of Agronomy, of which he was made Chief, and that of the Wisconsin Experiment Station Association, which he had organized. Management of the Short Course, and young people's work, was then entrusted to the able hands of Professor T. L. Bewick, who was the first Club Leader appointed in Wisconsin, under the Smith-Lever Act. The 4-H Club organization, whose inception owes much to vision and preliminary work of Professor Moore in Wisconsin, has now a national enrollment of about 750,000 boys and girls.

Another of Professor Moore's great contributions to the farming business of Wisconsin and America has been his remarkably successful development and dissemination of purebred grain seeds. Professor Willet M. Hays, of the University of Minnesota, first made him enthusiastic about this line of work. Visits to the farms of the State, when seeking to induce young men to attend the Short Course, also impressed upon him the necessity of grain improvement. One acre of land was used for his first grain-breeding plots. New Varieties of grain were obtained from the U. S. Department of Agriculture, the various States, and Canada, and grown side by side with Wisconsin sorts. Professor Moore, selected, saved, and sowed the superior varieties. Quickly the work progressed, until large areas of land were devoted to select seed production.

### *Wisconsin Experiment Association*

On February 22, 1901, Professor Moore organized the Wisconsin Experiment Association with 187 charter members, and later the boys' and girls' clubs with several thousand members. Breeding work with barley had begun at the Wisconsin Experiment Station in 1898, with seed obtained from the U. S. Department of Agriculture. The Hays centgener method of seed growing and testing was introduced in 1900, and by 1928 at least 98 per cent of all the barley grown in Wisconsin was produced from seed that Professor Moore developed. Improved Oderbrucker barley, from a few kernels of seed obtained from Canada in 1899, has been the chief variety produced and disseminated. Great improvements have also been made with other

varieties of barley, and new sorts produced by hybridization, largely as the result of the persevering and painstaking work of Professor B. D. Leith, of the Agronomy Department.

Some 1,500 former students of the Short Course have cooperated in the seed improvement work of the Wisconsin Experiment Station, at growing centers well distributed over the State. An average area of 744,600 acres has annually been devoted to the production of barley in Wisconsin, with an average acre yield of about 30 bushels.

The Wisconsin Experiment Association was organized for the purpose of growing and selling purebred grain seed. Over 4,000 names have been placed on the membership roll. It now sends seeds to all parts of the world. In 1912, 20,000 bushels of Wisconsin pedigreed barley went to Japan, and sales have also made progress in Russia, Germany, and other foreign countries. Branch purebred seed-growing associations have been formed in many localities. In a single year, the Wisconsin Experiment Association members sold $2,600,000 worth of pedigreed seeds. The State Legislature at first allowed the Association $1,000 a year toward expenses, and now appropriates $5,000 a year for its use. Through the systematic inspection of seeds pursued by the Association, using the County Agents and the special staff of the Agronomy Department, practically all fields of pedigreed seed grains have been examined free of charge to the breeder. In this way the quality of seeds produced has been safeguarded and enhanced.

The corn-breeding work, which was begun at the Wisconsin Experiment Station farm in 1898, worked wonders in the improvement of corn for Wisconsin growing. By selection, hybridization, etc., such notable varieties as Golden Glow (Wis. No. 12), Silver King (Wis. No. 7), Clark's Yellow Dent (Wis. No. 1), Early Yellow Dent (Wis. No. 8), and Northern Yellow Dent (Wis. No. 25), have been developed.

For 12 years, the Department of Agronomy, under Professor Moore's direction, distributed the new varieties of corn through young people's clubs. The work began in 1904, and the fifth year of the work (1909) 51 fairs in 50 counties of the State offered $18,000 in prizes for the best samples of corn grown by members. The Department of Agronomy furnished the seed corn for all of the contests, with full instructions for cultivation, and 36,000 boys and girls engaged in the work. Eventually this campaign for better corn growing was carried on by the 4-H Clubs of the State.

Many of the most successful Wisconsin dairymen got their first money for the purchase of purebred calves from the sale of Golden Glow corn, pedigreed barley, or some other pedigreed seeds.

An active campaign also has been carried on from 1898 to make alfalfa growing popular and widespread in Wisconsin. At that time, less than two acres of alfalfa were grown in the State, and few believed in the crop. Now, half a million acres are devoted annually to alfalfa growing, and the crop has proved of inestimable value to the dairy industry. In September, 1911, the Alfalfa Order was organized as a branch of the Wisconsin Experiment Association for the purpose of extending as rapidly as feasible the State's alfalfa acreage. Its work, under the direction of Professor Graber, has been admirable and successful. A Hemp Order and a Soybean Order also functioned with the Alfalfa Order. Incidentally, the use of lime has come widely into vogue. Much limestone from quarries has been ground, and great beds of marl have been uncovered and used. Even the old lime-

stone walls that enclosed early established fields have been ground and applied, with benefit, to the land.

Alfalfa seed from eastern Canada and other parts of the country have been used. The Grimm variety has given good satisfaction. It is hoped that work now in progress at the Experiment Station will eventually result in the development of a variety of alfalfa that will regularly produce seed in Wisconsin.

Sweet clover, soybeans, and splendid varieties of oats and rye have also been developed and distributed by Professor Moore and his able colleagues, to their enduring credit and the benefit of the enterprising farmers of Wisconsin.

June 22, 1923, was one of the red letter days in Professor Moore's busy and eventful life. Members of the Wisconsin Experiment Association and other friends and admirers assembled and presented his portrait in oils to the College of Agriculture, in recognition of his eminent services to the State.

On the occasion of the presentation, Professor Graber said among other well-deserved tributes: "For his great accomplishments, which have been of untold value to Wisconsin, we render 'honor to whom honor is due.' Professor Moore has not only devoted his life to grain breeding, but he has been the inspiration for young men to climb the ladder of success. He fostered a pride in rural life which made many a young farmer more fully conscious of his opportunities. His accomplishments show what energy, perseverance, and enthusiasm may achieve in America. Professor Moore has all of the traditional characteristics of the American pioneer—unfaltering courage, boundless determination, and marvelous ability to create new opportunities. He is deserving of outstanding recognition for his splendid services."

So say all of us who know, respect, and love Ransom "Agronomy" Moore. May his declining days be peaceful and pleasant, among his hosts of friends in his beloved Wisconsin, until the call comes for him to go to the "happy hunting grounds" above.

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# Fertilizers and Potato Shapes

(*From page 7*)

potash was low, few potatoes set in the hill. Phosphorus appeared to be somewhat influential in improving the set. Potash increased the set and was always present in large quantities when high yields of merchantable potatoes were obtained. High potash and medium to low nitrogen produced the greatest number of tubers per hill. The high yields were obtained on the plots which had nitrogen and potash irrespective of the phosphorus.

In the Maine Experiment Station Bulletin 358, recently published, Dr. Donald Folsom, Dr. F. V. Owen, and Mr. Hugh B. Smith have the following to say about fertilizers affecting tuber type: "In 1929, the Corinna Green Mountain strain as grown in nine fertilizer plots was studied as to tuber type. Unless otherwise indicated, the amount of fertilizer applied was 2,000 pounds an acre. Comparing 0-0-7 vs 0-0-0 (no fertilizer); 5-8-7 vs 5-8-0; 5-8-14 vs 5-8-7; and 5-8-14 at 3,000 pounds an acre vs 5-8-14 at 2,000 pounds an acre, we find that the presence of potash, more potash, or more fertilizer with high potash content, generally tended to decrease the length, increase the width, increase the thickness, decrease the length-to-width ratio, and increase the width-to-thickness ratio.

"On the other hand, . . . we find that the presence of nitrogen and

phosphate, complete fertilizer, or more fertilizer not high in potash, generally tended to increase the length, decrease the width, increase the thickness, increase the length-to-width ratio, and decrease the width-to-thickness ratio."

In short they found that high applications of potash had a tendency to shorten and widen the tubers, thus making them more blocky, while nitrogen and phosphorus did just the reverse.

In the New Jersey work, it was found that weather also influenced tuber shape. Potatoes were inclined to grow longer in wet seasons. This was said by the authors to be due probably to moisture making the plant food more quickly available, rather than to any direct influence on the tuber.

This information comes at an opportune time as this year fertilizers will contain 20 per cent more nitrogen than they did last year because of the change from ammonia to nitrogen. When clover, which is high in nitrogen, is plowed under for potatoes, the fertilizer should be relatively low in nitrogen and high in potash, if long slim potatoes are to be avoided.

---

# Result Demonstrations

(*From page* 10)

yield was 20.7 bushels, but when 100 pounds of 10-0-10 were added to the 200 pounds of superphosphate, the yield jumped to 24.6 bushels per acre.

Another farmer selected a piece of sandy-loam bottom land as a place for his top-dressing demonstration. Corn and cowpeas planted in alternate rows had been grown on the land in 1930, and had been hogged down. The corn in the demonstration plot in 1931 was grown in alternate rows with soybeans. Where no fertilizer was applied, the corn produced 20.2 bushels per acre, but when a top-dressing of 10-0-10 was applied at the rate of 100 pounds per acre, the yield jumped to 29.1 bushels per acre, an increase of almost 50 per cent.

Upland loam that had received about three tons of barnyard manure per acre was selected by another grower for a demonstration. Where no fertilizer was applied, the corn produced 26.1 bushels per acre, but when 100 pounds of 10-0-10 were applied as a top-dressing, the yield jumped to 33.9 bushels per acre.

The results of these demonstrations will be brought constantly before the eyes of the farmers of the district and efforts will be made to secure a greater use of high-grade fertilizers throughout the district.

---

# Farming Peat in Minnesota

(*From page* 9)

University of Minnesota, probably one of every 10 farmers in the State has from 2 to 50 acres of peat on his home farm. The greater part of these peat lands are in the north, especially in St. Louis, Koochiching, Beltrami, and Lake of the Woods counties. In all but 15 counties at least small tracts of peat are to be found, says Dr. Alway. In some of the central counties there is a large acreage. In Anoka county, close to St. Paul and Minneapolis, peat covers 103,000 acres or one-third of the whole county.

"On peat land, wherever the water table can be lowered two to three feet below the surface," says Dr. Alway, "we can obtain excellent meadows and pastures, with tame grasses and clover, and these can be made to produce as much hay and pasturage as the best loams or clay loams. Peat also can be made to produce good yields of hardy vegetables. Winter rye can usually be made to do well; oats and barley often give good yields.

"Peat soils, with very rare exceptions, must be fertilized to make them productive. Stable manure, if available and used in sufficiently large amounts, will suffice to fertilize those peats that are naturally well supplied with lime. However, unless the manure is exceptionally plentiful, it is more profitable to use it on the ordinary soils and to buy commercial fertilizers for the peat. This is because the portion of the manure that is most valuable on mineral soils, the nitrogen, is of little or no benefit on most peat soils. Peats are naturally very rich in this form of plant food. Most peat fields need both phosphate and potash, but some need only phosphate and some only potash. Most Minnesota peats have an abundance of lime, and on these liming is worse than useless, but in certain parts of the State there is much peat which will produce nothing of value unless it first be well limed. These lime-deficient peats require, in addition to lime or marl, both phosphate and potash."

Fourteen years ago the University of Minnesota established three peat experimental fields, one in the northwestern part of the State, one north of Duluth, and the third in Anoka county close to Minneapolis. Eight years ago a fourth was started 10 miles north of Milaca, this being a low-lime peat experimental field. The first and second stations have been discontinued.

The number of men farming these peat soils is steadily increasing. For example, in Anoka county in 1919 no one except the university was trying to farm peat. In 1920 there was only one farmer, in 1921 there were two, in 1922 about 40, and in 1923 more than 200. "After that we gave up trying to keep track of the number," says Dr. Alway. "Now there are probably 800 or more in that county alone. Meadows and pastures on peat may be made a sure thing in every season. Summer frosts are characteristic of peats and they are so common they form the most serious handicap except for crops that are almost proof against frost injury like the grasses and common clovers."

---

# Fertilizing Tomatoes

(*From page* 11)

50 per cent efficient. It is very conservative to recommend not less than 500 pounds of 4-16-8 for tomatoes on Berrien sand.

Another experiment was conducted in 1929 and 1930 on a Nappanee clay loam soil on the farm of Felix Witt of Lenawee county. This soil has a grayish-brown silty clay loam surface soil extending to a depth of about eight inches.

The field had been liberally treated with stable manure, and commercial nitrogen was not needed for best results. Superphosphate alone had very little effect on the yields, but 500 pounds of 0-16-8 increased the yield in 1930 enough to pay for the fertilizer and return a profit of $14.34 per acre. An increase in potash, making an 0-16-16, increased the profit to $41.50 per acre. The use of 4-16-16 on this field, due to the increased cost of the fertilizer and a slightly

TABLE I. THE EFFECT OF FERTILIZERS ON THE YIELD OF TOMATOES ON NAPPANEE SOIL AT THE FIRST PICKING—1930.

| Treatment | Aug. 18, lbs. per acre | Increase in yield due to fertilizer, first picking, (lbs.)* | Value of increase, first picking | Cost of fertilizer | Profit due to fertilizer, first picking |
|---|---|---|---|---|---|
| 0-16-0, 500 lbs. .... | 726 | 136 | $6.80 | $6.60 | $ .20 |
| Check ..... | 590 | | | | |
| 0-16-8, 500 lbs. .... | 1,418 | 867 | 43.35 | 8.90 | 34.45 |
| 0-16-16, 500 lbs. ... | 1,234 | 723 | 36.15 | 11.20 | 25.95 |
| Check ..... | 472 | | | | |
| 4-16-16, 500 lbs. ... | 862 | 335 | 16.75 | 14.95 | 1.80 |
| 4-16-8, 500 lbs. .... | 1,135 | 554 | 27.70 | 12.40 | 15.30 |
| Check ..... | 636 | | | | |
| 4-16-8, 1,000 lbs. ... | 1,180 | 553 | 27.65 | 24.80 | 2.85 |
| 6-28-12, 250 lbs. ... | 1,235 | 609 | 30.45 | 9.19 | 21.26 |
| Check ..... | 617 | | | | |
| 3-14-6, 500 lbs. ... | 1,158 | 502 | 25.10 | 10.69 | 14.41 |
| Check ..... | 704 | | | | |

* Increase in yield calculated from theoretical check yield, assuming constant gradient between check plots.

smaller yield, resulted in a profit of only $14.95 per acre.

When tomatoes are grown for a canning factory, the time of maturity is not important so long as frost damage is avoided, but it is vastly important when they are to be sold as fresh fruit on the local market. Canning stock brings a set price, but when the fruit is sold locally, the price shades off abruptly as the season advances. If the time of ripening can be speeded up to allow even a small part of the crop to be marketed before the bulk of the local crop is ripe, the profit of the crop is greatly increased.

In 1930, a year in which the rainfall was only slightly more than one-half normal, the fertilizer had no effect on the total yield of tomatoes on this Nappanee soil. As an average for the entire season on the whole field, the no-treatment plots produced just as much fruit as did the treated plots. If the yields obtained at the first picking are considered, the figures turn from red to black. On that date, August 18, tomatoes were selling locally for five cents a pound. From this standpoint, fertilizer actually produced a profit on all plots where it was used.

The results presented in Table II show that the rate of maturity was markedly increased when one-fourth of the fertilizer was placed in a six-inch circle around the hill. Not until the fourth picking, did the percentage of mature fruit on the broadcast plot become as large as the percentage of mature fruit on the plot where part of the fertilizer was applied around the hill.

TABLE II. THE EFFECT OF LOCATION OF FERTILIZER ON THE DATE OF MATURITY OF THE FRUIT—BERRIEN SAND 1929.

| Treatment | Per cent of the total yield of fruit mature at each picking | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Sept. 2 | Sept. 4 | Sept. 9 | Sept. 12 | Sept. 19 | Sept. 25 | Sept. 30 | Oct. 4 | Oct. 8 |
| 4-16-8, 1,000 lbs. (broadcast) | 2.67 | 5.32 | 16.9 | 8.86 | 8.38 | 15.95 | 17.85 | 15.6 | 8.6 |
| 4-16-8, 750 lbs. (¾ broadcast) 250 lbs. (¼ around hill) | 5.22 | 7.85 | 18.6 | 4.18 | 14.15 | 10.3 | 13.35 | 19.5 | 6.6 |

# Alma Mater Minus

(*From page 6*)

ing of it, but that we have extended it too frequently at high cost to selfish persons who return nothing to the state.

When the day dawns that really educated people rule the world on fact and experience, instead of leaving it to promoters to run on frenzy and prejudice, it will be possible to achieve peace and stability.

In the past as the world was operated, it has been possible to get a larger return for drawing the Goops or the Gumps for a comic supplement than to write the Origin of Species. Those who toted the lantern of learning got less than the organized hod carriers. It was harder to borrow three hundred dollars to educate a boy than to get three thousand from the same banker to plunge on oil or stocks. There has never been a real boom in real education. What we had during the joy era was hysterical smattering of bluebooks with sputtering fountain pens, fashionable fraternities, and the encouragement of much loose free-thinking.

It is probably true that since the royal road to erudition became a concrete-paved and crowded avenue we have had more accidents and fewer arrivals than we enjoyed back when educational highways were corduroy trails and mud-holes.

Sane minds in the National Education Association have sensed the fact that enlightened public opinion based on accurate information is essential if a lot of trouble is to be avoided in the future. Teaching the facts and discussing them honestly are believed to be a major responsibility of the nation's schools.

Lust for power and wealth, armament, propaganda, secret treaties, curbing of free speech, concealment of real motives by governments, and kindred noxious causes of unrest are free to work their worst effects among a people indifferent or unaware of them.

Nearly everyone will agree that research and education in their best sense have provided us with ample means for progress, protection, and opportunity. The reason why we have failed to achieve these equally is largely because of two things: First, direction of public affairs by minds out of tune with the purpose of education; and second, timidity and vacillation on the part of those entrusted with education.

After all, the whole process of life is a thing of education. We make fun of someone who gets bumped twice in the same way and claim he did not profit by experience. Yet whole nations and hemispheres have done exactly the same thing through the centuries. Knowing that war was evil and its punishment lasting and severe, knowing that honesty was the best policy, knowing that clean living was more sure of success than the opposite, knowing that it is foolish to spend more than is earned—yet behold the World back once more after the long lesson, seated on the dunce stool, bearing the marks of the hickory rod.

Perforce we must teach something else in our higher institutions than trigonometry and calculus, economics and finance. Perhaps a review of some of the chart class fundamentals might be a good idea for the college graduates as a requisite to a degree, just to test them out before pushing them into life. They do it with Ford cars and radio sets. Maybe it would be a good thing for youngsters, covered with too much veneer.

You can spend a whole lot for spare parts and accessories, but if the blamed thing isn't assembled right and in tune, it can't render service or stay sold.

**"OUR MISTAKE, WAITER"**

A very green couple from the country were on their honeymoon. A town friend had recommended a certain London restaurant where shellfish were a speciality.

"Oh!" said the bride, after scanning the menu, "I think I'll have a dozen lobsters!"

"Lobsters, madam?" echoed the waiter. "Do you mean that?"

"Of course she means lobsters!" The groom gave the waiter a severe look. "And you may bring me a dozen, too."

In due course the waiter appeared staggering under two trays piled high with the red shellfish. He placed a dozen in front of the girl and a dozen in front of the man.

The young husband looked at them aghast. So did his bride. She was the first to recover her speech.

"Don't you think, dearest," she said, "that maybe it was oysters Harold told us to get?"

---

Johnnie came into the office of the boss. "Kin I go to the ball game?"

"Now, Johnnie," said the boss, "That's no way to ask. You sit here in my chair and I'll go out and come back in and show you how to ask."

The boss went out, got his hat and returned. On entering the office he removed his hat and said: "Mr. Doran, my work is all up and I wonder if it would be all right to go to the ball game this afternoon?"

Up jumped Johnnie and putting his hand in his pocket he said: "Sure—and here's 50 cents to get into the game with."

A smart alec in flashy "town clothes" stopped his car in front of a farm house and, wishing to be directed, called out pompously to a woman hoeing a garden:

"Say! I want to go to Hickey's store."

The woman paused a moment, looked him over and then drawled:

"Wall go on; ye have my permission."

---

A "drunk," passing a subway excavation, stopped for a moment and called down to the men at the bottom of the pit: "Shay, watcha doin' down there?"

One of the men responded: "We're building a subway."

"How long is it goin' to take to buil' tha' subway?"

"Eight years," came the answer.

"Eight years! (hic) To 'ell with it. I'll take a taxicab."

---

**A MATTER OF CHOICE**

Old Lady (on platform): "Which platform for the London train?"

Porter: "Turn to the left and you'll be right."

Lady: "Don't be impertinent, my man."

Porter: "All right, then, turn to your right and you'll be left."

---

Lady—"I want a pair of bloomers; something to wear around my gymnasium."

Bored Clerk—"Yes, madam, what size is your gymnasium?"

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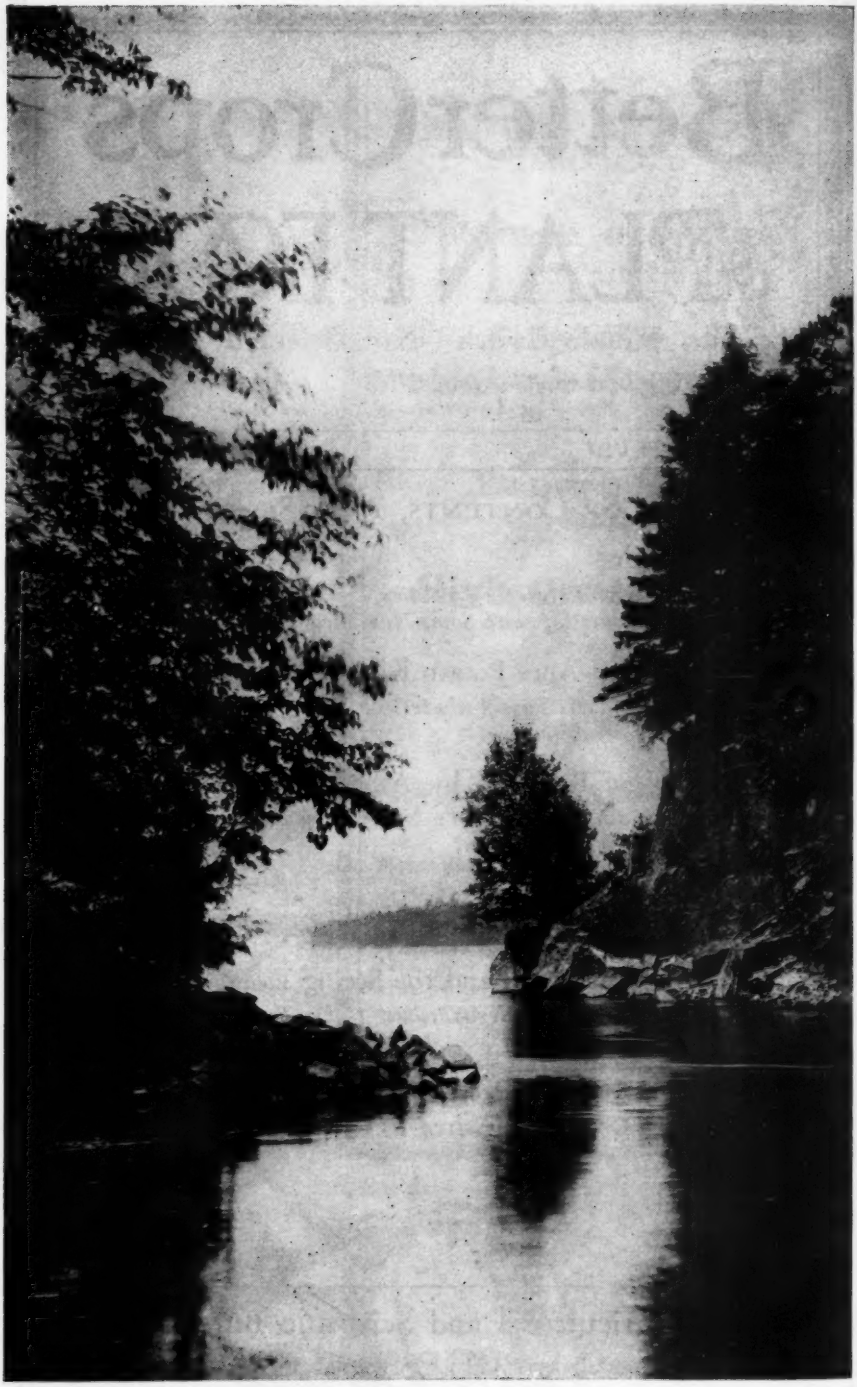

**ENTRANCE TO LAKE OF THE ISLES, THOUSAND ISLANDS, ST. LAWRENCE RIVER.**

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*Is it our followship, rather than our leadership, that counts for progress?*

# Saved Again!

By Jeff McDermid

THERE have been at least three Dreamers who accomplished something after their slumbers. Jacob went to sleep on a rock, dreamt of a ladder to Heaven, and became a leader of his race. Samson went to sleep in a lady barber's chair, but soon thereafter tore a temple down over the heads of reactionaries. Rip Van Winkle slept his way out of a domestic depression and awakened in a thrifty community devoid of scolds and crepe-hangers. His was the happiest outcome.

Similarly I became drugged and dopey in the campaign of 1932, doing my duty as a responsible citizen trying to detect the difference between the two principal platforms; especially those obscure portions concerning the glory and destiny of America. Although both platforms warned us to beware of the dogs, each one said that the other's pathway led us straight to the kennels. In their eyes proverbial Dreamers are alike in tough straits. Jacob was only sleeping on a hard bed; Samson wanted a

marcel and got a head shave; and Poor old Rip missed the best of the schnapps party.

In short, America has become a nation of malefactors, painted by misanthropes using Prussian blue pigment, thinned out with alcohol. If you don't like the color, take the alcohol and cheer the parade until the headache starts.

In politics today one must be fashionable. It is not stylish to be cheerful or optimistic. Columbia is a poor widow cheated of her inheritance. Uncle Sam is about to wear his stripes horizontally. The motto on the shield is E Pluribus Bunkum. The eagle's wings are clipped and the buzzard is mostly beak and talons. Some of the spellbinders even want to alter the coinage to read: "In God We Bust."

TWO of the soundest talks I radio-received in July were those of Jim Reed of Missouri and Arthur Brisbane of New York, who both said almost simultaneously that the campaigns and the party dictums mean little because it is what the people themselves do that will change the conditions eventually.

I can join any gaudy parade behind any sassy drum major, but if I get the bellyache I must fall out sooner or later; and if all the marchers had something for lunch that didn't agree with them, there won't be *any* procession. Then when I am all braced up again and feeling flip, why anybody can start the music and I'll prance like a yearling Shetland.

In this campaign it has seemed to me that we were living over again the log cabin and hard cider proposition of Tippecanoe days, with this difference—nobody can go west and escape it. Apparently we have to stay here and take it—both the log cabin economy and the cider. The Republicans are rolling the logs and the Democrats are talking reforestation to get more timber to hew; and every congressman has grapes, apples, barley, corn, and rye booked on his free seed dispensary for 1933. Splinters from either platform would make fine distillate.

In the demand created by political fashion there will be vivid prosperity and hectic trade revival for lumberjacks, rail-splitters, timber cruisers, and wort-and-mash farmers. In the wave of enthusiastic thrift the victorious phalanx may even request Congress to do its business by correspondence and demand that President Frankbert Roosehoover run an outboard motor in lieu of the Mayflower and rent the White House to foreign embassies on debt cancellation privileges.

During the long night when the Sancho Panzas of the Democratic party were riding the donkey in search of a new Quixote, I determined to keep tally on the voting. So enshrouded in a horse blanket I listened to the static statesmanship. Somewhere between the seconding and thirding speeches for Alfalfa Bill, my mind wandered into the land of visions.

I FOUND myself living in 1948, perfectly possessed of my faculties and aware of changed conditions in the political world. There were two parties, the Do party and the Dare party. Neither one nominated a president. This procedure had been altered to meet new needs. The president was selected by the simple expedient of having members of congress blindfolded draw beans out of a sack. The one who drew the purple bean became prexy and the one getting the red bean had to be satisfied with a chair on the senate rostrum. The term of office was for 12 years, subject to assassination, suicide, or other acceptable cause for A. W. O. L.

No candidate could accept unless he swore that he clung to no fixed opinions that could not be changed at the mandate of the successful

party. The party contests were solely on platforms, and the platform receiving the most popular votes was wished upon the president (if he survived) or on the vice, if he could be located.

This idea came into vogue because choosing men to fit platforms was found to be as futile as having the office actually seek the man.

The economy lay in not having to alter the White House and the office rooms so often for each new occupant, and it enabled the president to dismiss his buffer-secretary and meet all comers with the universal greeting of

the Established Fixture—"Go to Hades." If anybody criticised him he could reply, like they do at carnivals, "Well, what do you expect in a lottery?"

Liquor of all kinds, from white mule to lacquer, had been wiped off the platform by the simple plan of making the stuff compulsory instead of contraband. In 1940 they had finally enacted a national law that everybody, everywhere, every time, had to carry it in standard flasks; had to drink a pint with every meal, plus antidotes; and anyone caught without it, even in church, was fined and imprisoned. While incarcerated in the hoosegow, his regular fare was alcoholic beverage blotted down with pretzels.

Homes were raided and if nothing intoxicating was found on the premises, the place was taken over for a federal experiment station or a fox farm, or something, and the offender and his folks had to raise hops for five years or go to California and fight grape-hoppers. Hotels had spigots in the walls and if yours didn't register on the automatic office dial your room rent was doubled. Offenders caught without hooch in their golf club lockers were obliged to caddy for the ones who made 18 holes in 200 or worse. Hence the parties were not concerned over any drainage issues, and my dream was simplified that much.

They had also solved some economic and financial problems, but the sketchy outline coming to me in the trance lacks substance enough to present to this critical audience. I recall my impressions were that the plan to stop hoarding and to promote free circulation resembled some of the lift-yourself-by-the-boot-straps remedies advanced in 1932. My hazy idea was that the government issued paper scrip only, bearing personal dates of exchange, and that its face value declined two per cent every business day while it remained in any individual's possession, and only one per cent if put into a bank to personal credit.

THIS tended to keep folks in a frenzy to pass on the scrip before it shrunk in value, or else bank it as a last resort—if they already owned all the autos, safety razors, and manicure sets they required. Anyhow it kept mold and verdigris from gathering on the coin of the realm and stimulated new industries to supply folks with a fresh desire to spend so as to get their money's worth. I recall how jubilant the candy and gum factories were, because if you gave a kid a penny scrip dated today he had to spend it pretty soon or only have half of nothing left. But as one wise-cracker remarked to me at the convention, "That's more than we could bank on back in 1932."

Yet in any jumble of thoughts induced by introspection when the sub-

conscious mind is active, my hallucination finally took more purposeful shape. I learned that tax reduction no longer figured as a stump-speaking issue, because the law had been changed so that in case of a deficit the difference had to be paid by the bureaucrats responsible for it. If they lacked the cash the government furnished overalls, picks, and shovels so they could work it out building post-offices and canals. This made it all jake for the farmers because the government gave them food contracts to supply these camps of tax-eaters, paying cabbage, pork, and corn-on-the-cob in lieu of tax money. At one time the governors of five states and three of the cabinet members were sifting gravel and feeding mixers on a new road from Albuquerque to Androscoggin. And congress had to meet on a dredge in the Mississippi in order to get a quorum. Needless to say, none of these convicts had any fever for further public service with its manual risks, and all candidates had to be drafted—which made a plain case of the office seeking the man. That settled this.

BY some strange fancy I became the key-noter of the Dare party plank-laying conclave. As I stood there in flowing blankets and pajamas before the giant battery of television receptors, I could hear the cheers coming from a million homes by means of the duplex return-wave audience finder. Taking a generous nip of the compulsory compound provided by law for speakers, I gave them a brand of oratory that 1932 forgot.

"Fellow Americans: Our platform must reek with Confidence. We have lived in the years of the greatest progress toward civilization that the world has ever known. If all that has been done for mankind since we were born were blotted out, what would there be left for comfort to the aged and ambition for youth?

"I shall not conjure up the probity of Washington nor the honesty of Lincoln, but let me mention something once said by Walt Whitman to Hamlin Garland, a former citizen of my grand and glorious state. The old sage in the midst of his illness said, 'I am aware of our political and literary fraudulences, but as things are going on in these states in our time, I am fully confident of good results. I have no sympathy with current pessimistic notions of life, of government, and of society.' (Cheers.)

"WHY does America whine in the midst of the most wonderful era known to mankind? Suppose we blotted out the fruits we have plucked in the past decade or two. The marvels of invention and mechanical discovery and adaptation would be gone and again we would be in the age of the scythe, the cradle, and the ox yoke. We would close all the hospitals for the sick and the unfortunate, and banish all the tender social agencies that protect the weak and raise the fallen. We nurse our petty frets and forget that the world is indeed escaped from barbarism. Do you desire to return to the miserable mental state in which Americans stewed themselves from 1930 to 1933? Then for God's sake subscribe to this platform and stand up and register enduring confidence! (Seats broken up.)

"The progress made since the dingy days of 1933 is startling. Lindbergh was a hero because he flew the Atlantic in 33 hours. General Whozit has just done it backward in half that time. Admiral Byrd found the North Pole, and only last week Ensign Holystone discovered two of them. McKinley stood for gold, Bryan campaigned for silver, and Henry Ford believed in circulating tin; but in these pregnant days, Confidence is the only standard! (Hats torn up.)

"We have a broader conception of the duty we owe to our fellow men.

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Ralph Russel (foreground) in his potato field in Randolph county, West Virginia, where he harvested 531 bushels from one acre.
—*Courtesy, West Virginia Farm News*

# W. Va.'s One-Acre Potato King

*By W. L. Myers*

Richmond, Virginia

FIVE hundred and thirty-one bushels of Irish potatoes from one acre is a good yield anywhere in the United States south of Maine, and it was good enough to win the title of the record yield per acre for the State of West Virginia for the year 1931.

It was also good enough to win for Ralph Russel, 21-year-old potato grower of Mill Creek, Randolph county, a prize of $50 in gold. This prize is given annually by the Bank of Mill Creek in recognition of the highest yield per acre of potatoes produced by contestants in their 300 bushels-or-better contest. Mr. Russel received his prize at the hands of President Ward, of the Bank, at a banquet given in honor of the 16 competing growers.

Ten acres of potatoes were grown by Mr. Russel, six of which were planted to certified seed and four to uncertified. The six acres of certified seed were given 200 pounds of muriate of potash per acre in addition to the other fertilizer used. The best part of the certified seed area produced the 531 bushels per acre that won the award, and the remaining five acres of the certified portion of the field averaged 325 bushels per acre. On the uncertified part the yield was only 150 bushels per acre, and this only had the regular fertilizer without the extra potash.

"Having plenty of potash in the fertilizer," said Mr. Russel, "was the thing that brought up the yield the most of anything that I did to that potato field." He has several friends in the section who use extra potash as a regular practice.

The fertilizer treatment on the certified section was 900 pounds per acre of a 9-27-9 fertilizer applied with a fertilizer attachment to the potato

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# Potash Need Is Revealed by Ashes

*By C. P. West*

County Agricultural Agent, Newberry, Michigan

FOR 35 years the wood-working industries of Newberry, Michigan, produced ashes at the rate of 1,500 tons per year. Up to five years ago, no practical use was made of these ashes.

During the spring of 1927, a few farmers near Newberry were induced to try wood ashes as a substitute for lime in correcting soil acidity. It was expected that the ashes would give a little better results than lime because they contained potash and phosphorus as well as calcium.

A demonstration under the supervision of the County Agent was conducted on the farm of W. B. Stevens. Wood ashes were applied to three acres at the rate of three tons per acre. One acre was left untreated, as a check. The entire four acres were seeded to alfalfa. A perfect stand was obtained on that part of the field receiving ashes. The check was a failure and was plowed up after the first year. During the season just past, the three acres yielded a little over five tons of alfalfa hay on first crop and was still a good stand from the original seeding.

More farmers became interested in 1928 and increased the amount of ashes used. Another demonstration was held on the farm of W. B. Stevens in 1929. A six-acre field was divided into three equal parts. Two acres received four tons per acre of refuse lime from a carbide plant, which tested about 70 per cent calcium carbonate. Two acres received ashes, and two acres had no lime or ashes and served as a check. The entire six acres were sown to oats and seeded down to medium red clover. Results:

Ashes —60 bushels per acre
Lime —45 " " "
Check—38 " " "

Clover seeding was best on that part of the field receiving ashes, and was also a good stand on that part having lime. The check had about half a stand. The next year that part of the field having ashes yielded twice as much hay as that part having lime. The check was a failure and was planted to other crops. Many farmers visited this demonstration.

### *Verifies Conclusion*

The extraordinary crop increases following the use of hardwood ashes led to the conclusion that the potash they contained was filling a real need, and since then all fertilizer tests show that Luce county farms are low in potash.

The County Agent carried on an interesting demonstration in cooperation with the Newberry State Hospital during the past season. The potash arrived too late to be applied at planting time, and so was used as a side-dressing on potatoes. It was applied at the rate of 100 pounds to the acre. The entire field received an application of 500 pounds of 4-8-6 applied in the row at planting time. One-half acre on each side of the part of the field

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DONALD MARTIN

# Prefer Potash Melons

*By Ira W. Martin*

Agricultural Editor, Elkhart *Truth*, Elkhart, Indiana

"MY customers liked the potash muskmelons, 'because they were sweeter'," says Donald Martin, who used different fertilizer treatments on his muskmelons in Elkhart county, Indiana, last year, and sold all lots at his own roadside market.

The soil on which Martin made his tests is a Plainfield sandy loam. Twenty rows with a total of 1,650 plants of Bender Surprise muskmelons were used in the test. The seeds were planted in hotbeds from March 4 to March 20, and the plants transferred to the field during the first 20 days in June. Each three-row group was given a different fertilizer treatment, the single rows on either side of the plot acting as checks.

Because the season was hot and the soil dry, irrigation was used during the development of blossoms and small fruit. It was not used during the latter part of the season, as rainfall provided plenty of soil moisture.

Combinations of nitrate of soda, a 2-12-6 complete fertilizer, superphosphate, and muriate of potash were used. Immediately after field transplanting, an application of one-eighth pound of nitrate of soda was made alongside each plant. Applications of one-eighth pound of each plant food used in its plot were applied to each plant at three-week intervals. After each fertilizer application, and as needed, the plot was irrigated.

Approximately five tons of muskmelons were harvested prior to September 24. The heaviest production was from the group fertilized with all three, nitrate of soda, superphosphate, and muriate of potash.

### *What Makes Flavor?*

The best flavor and heaviest yields, Martin found, were produced by potash and phosphate. Potash particularly bettered the flavor. Nitrate of soda and phosphate produced large melons of fair flavor, but poor keepers. With nitrogen alone, the melons kept fairly well, but the nitrogen seemed to increase neither yield nor the flavor.

The first melons were gathered off the rows fertilized with nitrate of soda, superphosphate, and potash on August 15. Harvest started on the second check row August 21.

Total melon weights taken from the rows fertilized with nitrate of soda, superphosphate, and potash exceeded the heaviest check row yield by approximately 10 per cent.

# *The* Inquiring Mind *and the* Seeing Eye

*By Dr. A. S. Alexander*

University of Wisconsin

"HE was born in a log cabin." To the long list of great and influential Americans of whom that arresting and inspiring statement can be made, let us add the honored name of Eugene Davenport, who was Dean of the Illinois College of Agriculture, Director of the Agricultural Experiment Station, and later, Vice-President of the University.

Little did the boy who was born in that humble home in the sugar bush of Woodland, Michigan, on June 20, 1856, imagine that in manhood's days he would leave behind the arduous labor of clearing land, cutting wood, lumbering, and pioneer farming, to lead Illinois agriculture and practice "out of the woods" and into the shining light of eminence and success. Like Moses who from his lowly cradle of reeds by the riverside grew to be the leader of his people out of the bondage of Egypt, this pioneer son of the Michigan maple woods, who one might almost say was rocked in a sap trough, was to become a captain and conquerer and, unlike the patriarch of old, reach the promised land.

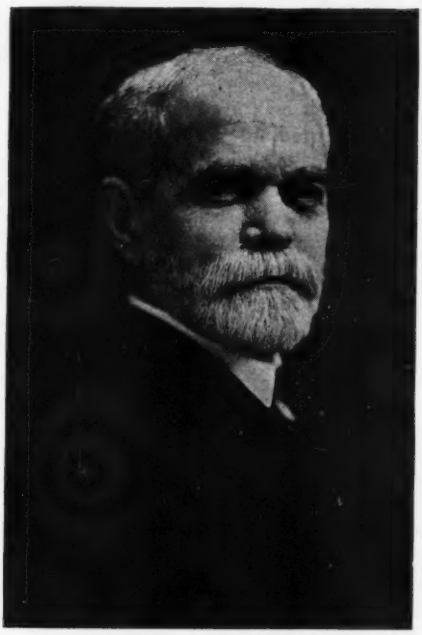
It is truly remarkable how a hard-working lad who had devoted his early years to a woodman's life, expertly wielding the axe, laboriously swinging the cross-cut saw, burning one hundred cords of four-foot wood when boiling sap, and making four to six thousand pounds of maple sugar in a single season, could settle to the task of book-learning and become, in time, a scholar, teacher, guide, and educational emancipator of national renown. But Eugene Davenport did it, and in the later years of his life, saw his efforts appreciated and recognized. In 1931 the University of Illinois conferred on him the degree of Doctor of Laws. Like honors were granted him by his alma mater, the State College of Michigan, and the University of Kentucky, while in 1920 he had been made a Doctor of Science by the Iowa State College. These honors came to him in recognition of nearly thirty years of constructive leadership and fruitful service to the people of Illinois and the farming interests of that State and of America.

### *Retired in 1922*

He chose to retire from active office in 1922, and returned to his beloved maple groves in Michigan. Now he is a quietly spending the harvest years of his life in a modern home on his one hundred-acre farm, adjoining the two hundred and sixty acres of boulder clay and timber land his father, George Martin Davenport, bought from the Government in 1853. There, he and his devoted helpmeet, Emma Jane Coats, celebrated their golden wedding in November, 1931, and were congratulated by a host of friends. Although seventy-six years

old, his mind is as alert and active as ever, and from his tongue and pen still flow words of wisdom, instruction, and guidance, based upon long years of notable experience and achievement.

It was true pioneer life Eugene Davenport knew on the old home farm. There were no luxuries, but stern living and strenuous toil in his boyhood days. The clothing he wore was home-made. Much of the meat used came from the wild animals and birds of the forests and wilds. The tea savored of spice-bush, and the alleged coffee knew the dandelion better than the berry shrubs of Brazil, which the young woodsman was to see and



DR. EUGENE DAVENPORT

know in later life. But hard worked as he was, the coming agricultural leader found time to obtain a rudimentary education in the district school, before high schools had been established in his neighborhood. Ever in mind he kept the prospect of higher learning and sought to prepare himself for college. Success crowned his efforts, and he became a student in the Michigan Agricultural College, from which institution have come so many notable agricultural teachers and leaders.

Even at college, his manual work continued, for under the labor system then in vogue, he worked on the college farm for three hours daily. There he learned to dig ditch, lay tile, and do all of the other practical operations of the farm. Graduating in 1878, he returned home and until 1888 successfully operated the home farm. He has been called "the only professor of agriculture in captivity who spent ten years after graduating in the actual, everyday work of the farm." But desire for study was strong upon him and he returned to the Michigan Agricultural College in 1888. From 1889 to 1891 he was professor of agriculture there and then became President of the Collegio Agronomica, at Sao Paulo, Brazil. Finding the time unripe for the successful establishment of a government agricultural college in Brazil, he returned home by way of England, where he tarried for a time to study the methods of scientific agricultural research work practiced at the celebrated Lawes and Gilbert, Rothamsted, experiment station.

### *Enriched by Experience*

He came back undaunted, richer in valuable experience, and endowed with renewed vigor and enterprise, to continue his efforts for the improvement of agricultural education. Dr. T. J. Burrill, professor of botany and former vice-president of the University of Illinois, wrote as follows of Dr. Davenport at this stage of his career: "He returned with colors flying, with broadened outlook, with new enthusiasm. He had secured a firmer grip upon himself; he had lost no faith in others and no confidence in the ultimate triumphs of agricultural leadership. His earlier personal ambitions had been to become a superior kind of farmer and to wield helpful neighborhood influences in a community of farmers—ambitions which, it may be

said, still linger somewhere in the treasures of his first loves."

But a wider field and scope of work opened before him. Illinois called, and he answered. He was made Dean of the College of Agriculture, in the University of Illinois, in January, 1895, and held that position for nearly twenty-eight years. In 1920, he was elected Vice-President of the University. On September 1, 1922, he retired as Dean and was made Professor Emeritus. During the World War, he rendered eminent service as a wise counselor to the President at Washington and to the officers of the agricultural experiment stations of the Midwest, relative to food production.

### *Plans Were Definite*

When Dr. Davenport began work at the Illinois institution, there was but one professorship of agriculture; but there was offered by the faculty of the University as much agricultural and related science as was found anywhere else, including the separate agricultural colleges. Some interest in higher agricultural education and research work had been aroused by his eminent predecessor, Dean George E. Morrow; but it remained for the new incumbent to institute definite, purposeful plans for the building up of a great and useful agricultural institution, which should deserve the confidence, admiration, and support of the people of the State. This he accomplished, in the face of the difficulties, opposition, misunderstanding, and lack of sympathy and encouragement which at first had to be encountered. At the outset, he found no distinctive college buildings, no separately designated college fund, few technical agricultural students, and little favorable inside or outside consideration and cooperation; but these adverse conditions and circumstances spurred him to more strenuous, persevering effort, and in time his labors culminated in success.

Today, as Dr. Burrill has intimated, Dr. Davenport is abundantly entitled to all the credit he has ever received, for the splendid upbuilding of the College of Agriculture and the University of Illinois and for his unique, unsurpassed services in the promotion of agricultural interests and affairs of the State at large. "Measuring by direct and stimulated accomplishments, he who has brought them about cannot be denied the terms wise, effective, creative, great. The man has grown great in Illinois and in so doing he has richly contributed to the wealth and worth of the community life and social well-being. The people of Illinois, young and old, are proud to do him honor, as a modest citizen who has led a pure, wholesome life, and has conscientiously, widely, and efficiently discharged, day by day, the duties of his office."

During his long régime, Dr. Davenport earned for the agricultural department, which was one of the weakest of Illinois University, a most prominent. appreciated, and admired position. He also established lines of research and fostered investigations, the results of which, while they are of high and peculiar importance to the farmers of Illinois, have also received world-wide recognition as conferring great and lasting benefits upon the agriculture of the world.

### *Endowed with Patience*

Endowed with remarkable patience, he could, however, when occasion demanded, assert himself with fearless aggressiveness, according to Professor H. W. Mumford, present Dean and Director of the Illinois Agricultural College and Experiment Station. Dr. Davenport was not given to shirking disagreeable jobs. He did not delegate to a head of a department an unpleasant task that could by any possible fair interpretation belong to him. His unselfishness was a source of wonder to his associates. He carried this almost to the point of dishonesty, since he frequently, both in private and in

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# "Made-to-fit" Fertilizers

*By John T. Omernik*

County Agricultural Agent, Langlade County, Wisconsin

SIX years ago about a dozen farmers met at the office of the county agent of Langlade county, Wisconsin, to adopt a plan for the wiser use of commercial plant food. Approximately 600 tons of low analysis fertilizers, such as the 4-8-7, were used in the county that year, and it seemed that commercial fertilizer would become popular here. It was necessary, however, to determine what mixture of plant-food elements would bring the greatest returns.

One member of this group suggested that in other potato sections 4-8-7 fertilizers were used, therefore, we need only to continue with it. Others insisted that we determine what analysis would bring the greatest return for the investment. Another stated that people badly distorted in shape need tailor-made clothes, and likewise our soils which have been so badly mutilated need a tailor-made job. All conversations led to this same point, and it was finally agreed that what we needed was a tailor-made formula. The county agricultural agent and Professor F. L. Musbach of the Marshfield Experiment Station were chosen as the tailors to perform the job.

That Langlade county farmers increased their fertilizer purchases from 600 tons six years ago to 5,000 tons in 1931 is assurance that the tailors have been successful. That the major portion of this tonnage has been changed from low analysis fertilizers like the 4-8-7 to those of higher concentration such as 3-12-12, 3-9-18, and 3-20-20 is further assurance that the hunch of this small group of farm-

ers who planned the experiment was a good one.

During the first three years, two sets of plots were used each year, one set on a farm using barnyard manure and another without barnyard manure. Manured plots produced higher yields than did unmanured plots, however, our various mixtures of nitrogen, phosphorus, and potash reacted in the same proportion.

Many different mixtures of plant food were used. The low limit in concentration was represented by the 4-8-7 analysis until 1929, while 3-12-12 represented the highest. In 1929, 3-9-18 and 3-20-20 analyses were added. Because 4-8-7 fertilizers constantly produced an inferior yield, it was dropped in 1931. Other high-nitrogen fertilizers were dropped for the same reason.

The following tables show clearly the influence that fertilizers of high potash and phosphate content had on yield. Tubers of U. S. No. 1 grade were the only ones used in this computation. Number 2 stock with all analyses varied very little, running a bit higher in plots where high-nitrogen fertilizers were applied.

POTATO FERTILIZER PLOTS—LANGLADE COUNTY

| Table I | Yield in bushels per acre U. S. No. 1 tubers | | | | |
|---|---|---|---|---|---|
| Treatment | 1927 | 1928 | 1929 | 1930 | Average |
| Blank ..... | 66.0 | 182.6 | 160.6 | 93.5 | 125.5 |
| 4-8-7 ..... | 200.5 | 364.7 | 266.1 | 165.6 | 249.2 |
| 3-12-12 ..... | 234.9 | 481.2 | 285.2 | 181.0 | 295.5 |

| Table II | Yield in bushels per acre U. S. No. 1 tubers | | | |
|---|---|---|---|---|
| Treatment | 1929 | 1930 | 1931 | Average |
| Blank ..... | 160.0 | 93.5 | 101.0 | 118.5 |
| 3-12-12 ..... | 285.2 | 181.0 | 143.1 | 203.1 |
| 3-9-18 ..... | 288.5 | 184.0 | 151.2 | 207.9 |
| 3-20-20 ..... | 336.8 | 196.0 | 161.8 | 231.2 |

Fertilizer companies complied with our requests for higher analysis fertilizers. In 1928 all eyes turned to 3-12-12, and in 1929 our fertilizer purchases were made largely of 3-12-12. In 1929, 3-9-18 gained in popularity, and since the dry seasons of 1930 and 1931, which proved that high analysis fertilizers produce no injury in dry seasons, 3-20-20, because of its superior yielding qualities, gained the front ranks.

The same amount of each analysis was applied: 750 pounds per acre were used in 1927; 680 pounds in 1928; 800 pounds in 1929 and 1930; and 600 pounds were applied in 1931.

There still remains one question to answer. Does this increased yield produce a profit to the potato grower? An increased yield has practically no cost except the added cost of fertilizer.

In 1929, our 4-8-7 fertilizer produced a yield of 266 bushels per acre while 3-20-20 produced 336 bushels. The additional yield of 70 bushels at current potato prices produced an additional return of $70 per acre. Our 3-20-20 fertilizer cost us about $12 per acre more than did 4-8-7, but we still had a profit of $58 per acre. We find that even in 1931, we made a profit on 3-20-20. At Wisconsin retail prices the 4-8-7 cost us $2.12 per unit of total plant food, while 3-20-20 cost us $1.63 per unit. There is therefore a saving of 49 cents per unit, which means many thousands of dollars to our farmers.

Our job is not finished. However, the tailors are still working on further changes that may add to our wiser use of plant food. We found our experiments interesting and very worth while. We hope our findings will be of help to others.

THE OLD OAKEN BUCKET—IN USE.

# PICTORIAL

**Left: This eight-foot rye was grown near Des Moines, Iowa.**

**Below: Fine cantaloupes are grown on a big scale in New Jersey.**

*Ewing Galloway, N.Y.*

Above: Walla Walla, Washington, boasts of five-foot wheat.

Right: Not all the tall corn grows in Iowa. This, fourteen feet tall, is California corn.

*Ewing Galloway, N.Y.*

**Above:** Gene Sarazen, British and American open golf champion, recently visited the farm of J. C. Andrew, West Point, Indiana. He is shown here lending a hand on the straw stack.

**Below:** Good heads—of children and wheat—on the farm of Paul Mitchell, Battle Ground, Indiana. The children are Marjorie, Jean, Frances, Carol, David, and Floyd Glen Mitchell.

# The Editors Talk

## The Problem of Distribution

An international inquiry into the world-wide problem of distribution has been inaugurated by the International Congress on Commercial Education. The Congress concluded its meetings recently in London, where thirty-five countries were represented. Questions other than distribution were discussed, among them, training and leadership in commerce. But as was pointed out by the Prince of Wales who was one of the chief speakers at the final meeting of the Congress, the world-wide trade depression and economic disturbance, from which we have all suffered so much, have been largely caused by maladjustment of distribution and consumption to the world's capacity of production.

The urgent task the world has to face is to bring about the adjustments necessary to bring consumption and production into proper relationship. This is by no means an easy or simple task, but nevertheless one that must be faced; hence, the reason that the International Chamber of Commerce has recently set up an International Committee on Distribution to deal with it. The universities are strongly represented among the supporters of this Congress, and an increasing number of graduates of such universities are finding in commerce and industry places for a professional career.

The results of scientific research have long been used in the field of production. What are badly needed now are systems of distribution based more on a scientific outlook and less on a political and emotional outlook. How this change is to be made probably no one can say; but certain it is that if more efficient systems of distribution are to be evolved, industry and commerce in a large measure will have to depend on themselves and their own vision and initiative. Governments may help, but cannot be expected to do the job for them. It is, therefore, gratifying that industry and commerce are taking the initial steps toward a more efficient adjustment of distribution to production.

## Classification of Soils

The New Jersey Agricultural Experiment Station and Professor Linwood L. Lee, Research Specialist in Land Utilization at that Station, are to be congratulated on the recent publication of a very comprehensive and thorough discussion of "The Possibilities of an International System for the Classification of Soils," which is a reprint from the Journal of the Southeastern Agricultural College (University of London), Wye, Kent, England.

Linwood L. Lee has spent considerable time with headquarters at Rothamsted in a study of the soils and systems of classification abroad. Out of this study the present discussion was evolved and presented as a thesis for the degree of Doctor of Science at the University of London. And, as noted in an editorial note on the first page, "it is gratifying that there has been a demand

for this reprint from soil scientists throughout the world."

The first pages of the reprint discuss eleven methods of soil classification. Then follows a description of the area selected for study. Next, there is a comparison of the general geology, climate, and soils of central New Jersey and the same factors of the area studied in southeast England. The influence of geology and climate on soil types, the dynamics of soil formation, and other factors are discussed. Limited space does not permit our mentioning all the conclusions of this work, but it is interesting to observe that "a similar regional profile is developed in both districts," that is, southeastern England and central New Jersey, and that "climate and geology have a direct relationship to the soil reaction in both districts." These outstanding conclusions point to the possibilities of an international system for the classification of soils.

## Farmers and Gold

To properly understand the present low prices for crops, farmers apparently should study the gold question. For as Warren and Pearson point out in Farm Economics, "In normal times, the short time variations in prices of farm products are more affected by variations in the supply of or demand for the farm products than in the supply of or demand for gold. Since 1915, the major variations have been due to the supply of and demand for gold, hence farmers must continue to give attention to the gold question."

To most people this is a difficult question, and to a great many others, a highly academic question, since gold itself is rarely seen and even its equivalent in money during recent years is rapidly going into the same category, so far as the farm is concerned. But in spite of this, farmers and agricultural organizations undoubtedly are becoming much better acquainted with at least the major outlines of the economic situation. Hence, the discussion of the gold question in Farm Economics is both interesting and instructive. The ideas presented are clearly stated and understandable.

The authors point out that, "The major source of the present difficulty was low demand for gold for many years, which resulted in having price relationships, debts, and taxes approximately adjusted to a commodity price level about 50 per cent above pre-war; followed by world-wide frantic effort to return to gold, which is causing price chaos and making it impossible to pay debts." To maintain stable prices the question, therefore is, to increase the supply of gold both for industrial uses and for its use as money. The authors apparently believe that this cannot be accomplished. It appears, therefore, that the world must go through the slow but sure process of long-time adjustments as long as gold is used as the basis of our monetary system. The discussion at least indicates the fallacy of expecting a rapid return to prosperity from local and superficial schemes and programs.

What is probably much more useful is the growing recognition of the concept that one country's prosperity depends on the prosperity of the others and the prosperity of all depends on the sound operation of fundamental economic laws.

## Erratum

We regret that in the article, "Fertilizers and Potato Shapes," appearing in the June-July issue of this magazine, the name of Dr. Howard B. Sprague was omitted as being one of the authors of the New Jersey work. Full credit should be accorded Dr. Sprague for his part in this important study, and we are pleased to hereby make the correction.

# REVIEWS

This section contains a short review of some of the most practical and important bulletins, and lists all recent publications of the United States Department of Agriculture and the State Experiment Stations relating to Soils, Fertilizers, Economics, and Crops. A file of this department of BETTER CROPS WITH PLANT FOOD would provide a complete index covering all publications from these sources on the particular subjects named.

## Fertilizers

Potash has been found to control cotton wilt as well as rust, by V. H. Young, G. Janssen, and J. O. Ware, of the Arkansas Agricultural Experiment Station. Control of the wilt occurred with high applications of potash salts alone and by fairly high potash applications in combination with nitrogen and phosphoric acid fertilizers. The use of the latter without potash would not control the wilt. This very marked control of wilt by potash fertilizers was demonstrated over a period of several years, except where root-knot infestation was bad. In the latter case the root knot apparently made the plant so susceptible to wilt that its disease resistance was completely broken down. Root knot must, therefore, be cleared up before the wilt can be controlled.

The data showed that the use of potash fertilizer increased the cotton yield, which probably was due in part at least to controlling the wilt. Little difference in efficiency of control could be found between kainit and muriate of potash, although the former produced slightly higher yields.

The use of potash in the fertilizer resulted in a smaller percentage of the total crop maturing at the first picking, compared to the cotton not fertilized with potash. However, this was not due to less actual cotton maturing at this time but due to the fact that the cotton with potash continued to mature bolls throughout the season, while the plant without potash matured fewer bolls after the first picking.

During the extremely dry summer of 1930, the authors noticed that the high-potash plots seemed to withstand the effect of the drought much better than the cotton without potash. They point out, however, that this would have to be substantiated by further work before definite conclusions could be drawn. Full details of this investigation are contained in Arkansas Agricultural Experiment Station Bulletin 272, "Cotton Wilt Studies—IV. Effect of Fertilizers on Cotton Wilt."

A test designed to determine the phosphorus needs of a soil is described by S. F. Thornton in Purdue University Agricultural Experiment Station Bulletin 355, "A Field and Laboratory Test on Plant Material for Diagnosing Phosphorus Deficiencies." The test is run on a corn plant growing on the soil in question, in which a colorimetric determination of the amount of phosphorus in the stalk of the plant is made. If the plant is low in its phosphorus content, the soil is assumed to be deficient in this nutrient. This test supplements and fits in with the Hoffer corn-stalk test, thus allowing all three primary nutrients in the plant to be examined and the fertilizer requirements of the soil to be estimated. The author includes in his bulletin directions for making the test and data showing results obtained, correlated with actual corn yields in several fields.

An interesting investigation of the

influence of fertilization on the cotton plant in the field was made by M. Nelson and J. O. Ware in Arkansas Agricultural Experiment Station Bulletin 273, "The Relation of Nitrogen, Phosphorus, and Potassium to the Fruiting of Cotton." Over a period of five years data were collected on the effects of varying amounts of nitrogen, phosphoric acid, and potash on fruiting, rate of pruning, boll development, shedding, yields, earliness, size of boll, lint, size of seed, lint index, percentage of lint, and staple length of cotton. The mass of results accumulated in this work will be of special interest to those investigating the fertilization of cotton.

*"Electrodialysis as a Measure of Phosphate Availability in Soils and The Relation of Soil Reaction and Ionization of Phosphates to Phosphate Assimilation," Agr. Exp. Sta., Tucson, Ariz., Tech. Bul. 38, Mar. 1, 1932, W. T. McGeorge.*

*"Registration, Labeling, Inspection, and Sale of Commercial Fertilizer; 1931," Agr. Exp. Sta., Columbia, Mo., Bul. 308, Mar., 1932, F. B. Mumford and L. D. Haigh.*

*"Fertilizer Materials and Mixed Fertilizers," Agr. Exp. Sta., New Brunswick, N. J., Bul. 541, May, 1932, A. W. Blair.*

*"Hints to Potato Growers—Fertilizer Placement Studies in 1931," N. J. State Potato Assn., New Brunswick, N. J., Vol. 12, No. 11, Mar., 1932, Wm. H. Martin and B. E. Brown.*

*"Direct Tree Injection in the Study of Tree Nutrition Problems," Agr. Exp. Sta., Geneva, N. Y., Tech. Bul. 192, Mar., 1932, R. C. Collison, J. D. Harlan, and Morgan P. Sweeney.*

*"Factors Affecting the Accumulation of Nitrate Nitrogen in High Plains Soils," Agr. Exp. Sta., Stillwater, Okla., Bul. 203, May, 1932, H. H. Finnell.*

*"American Fertilizers," U. S. D. A., Washington, D. C., Misc. Pub. 143, May, 1932, P. E. Howard.*

## Soils

Further interesting data on the problem of frequency of corn cultivation are given by R. P. Bartholomew in Arkansas Agricultural Experiment Station Bulletin 270, "Variations in Moisture and Nitrate Content of Field Soils Receiving Different Methods of Cultivation." The soil where the corn was cultivated medium shallow until tasseling was found to have the highest moisture content. A significant point, however, is that during the extremely dry periods in 1929 and 1930 the moisture content of the variously handled soils was about the same, provided the weeds were controlled. As a general conclusion, the author states that the method of cultivation which best controls weeds is satisfactory for growing corn in Arkansas. Since this agrees with work at other experiment stations, it is probable this principle will hold in most cases.

The influence of kind of cultivation on the nitrates in the soil was also studied. The type of cultivation had little significant influence on nitrates in soils on which weeds were not growing. Weed growth materially reduced the nitrates in the soil by absorbing the nitrates themselves. This shows the competitive action of weeds in robbing a crop of nutrients. The author brings out the importance of keeping the ground covered with plants the entire year in order to prevent the loss of nitrates by leaching. It is assumed, of course, that the absorbed nitrates so conserved by the plant will be returned to the soil by plowing the plant under or by manure.

*"Irrigation Investigations in Young Grapefruit Orchards on the Yuma Mesa," Agr. Exp. Sta., Tucson, Ariz., Tech. Bul. 37, Dec. 15, 1931, G. E. P. Smith, A. F. Kinnison, and A. G. Carns.*

*"The Movement of Gases Through the Soil as a Criterion of Soil Structure," Agr. Exp. Sta., Tucson, Ariz., Tech. Bul. 39, June 1, 1932, T. F. Buehrer.*

*"The Influence of Lime, Fertilizer and Manure on the Buffer Action of a Soil," Agr. Exp. Sta., Newark, Del., Bul. 177, May, 1932, Henry C. Harris.*

*"Fayette County Soils," Agr. Exp. Sta., Urbana, Ill., Soil Report No.. 52, May, 1932, E. A. Norton, R. S. Smith, E. E. DeTurk, F. C. Bauer, and L. H. Smith.*

*"Calhoun County Soils," Agr. Exp. Sta., Urbana, Ill., Soil Rejort No. 53, May, 1932, R. S. Smith, E. E. DeTurk, F. C. Bauer, and L. H. Smith.*

*"Methods for Determining Carbon Dioxide Production in Soils," Agr. Exp. Sta., Ames, Iowa, Res. Bul. 147, Jan., 1932, F. B. Smith and P. E. Brown.*

*"Some Chemical and Bacteriological Effects of Various Kinds and Amounts of Lime on Certain Southern Iowa Soils—Part I. Labora-*

*tory and Greenhouse Experiments," Agr. Exp. Sta., Ames, Iowa, Res. Bul. 148, Feb., 1932, R. H. Walker, P. E. Brown, and A. W. Young.*

*"Soil Survey of Johnson County, Kansas," U. S. D. A., Washington, D. C., Series 1928, No. 17, E. W. Knobel and R. H. Davis.*

*"Behavior of Potassium and Sodium During the Process of Soil Formation," Agr Exp. Sta., Columbia, Mo., Res. Bul. 162, Oct., 1931, Hans Jenny.*

*"Soil Survey of Dixon County, Nebraska," U. S. D. A., Washington, D. C., Series 1929, No. 4, A. W. Goke and L. A. Brown.*

*"Lysimeter Investigations—II Composition of Rainwater at Geneva, N. Y., for a 10-year Period," Agr. Exp. Sta., Geneva, N. Y., Tech. Bul. 193, Mar., 1932, R. C. Collison and J. E. Mensching.*

*"Some Relationships Between Soil Properties and Performance of Baldwin and Greening Apple Trees," Exp. Sta., Geneva, N. Y., Tech. Bul. 194, Mar., 1932, R. C. Collison, S. E. Collison, and J. D. Harlan.*

*"Twenty-five Years of Supplemental Irrigation Investigations in Willamette Valley," Agr. Exp. Sta., Corvallis, Ore., Bul. 302, June, 1932, W. L. Powers.*

*"Soil Survey of Winnebago County, Wisconsin," U. S. D. A., Washington, D. C., Series 1927, No. 31, A. C. Anderson, W. J. Geib, H. H. Hull, and Merritt Whitson.*

*"The Effect of Air Drying on the Hydrogen-Ion Concentration of the Soils of the United States and Canada," U. S. D. A., Washington, D. C., Tech. Bul. 291, Mar., 1932, Ernest H. Bailey.*

## Crops

Eighteen annual reports are to be found listed among the publications following. These reports contain resumés not only of scientific investigation on crop problems but also of all agricultural projects of the experiment stations and extension forces. They are especially valuable for the libraries of all who wish to keep up with progress in American agriculture.

Of the many important publications on particular crops which will meet with a wide range of interest, is Massachusetts Bulletin No. 281, "Experiments with Permanent Pastures," by A. B. Beaumont. A place for permanent pastures in an economic scheme of farm management is becoming more and more definite. This bulletin, with its fine illustrations and carefully recorded data, is a welcome addition to the information on pasture management already obtained.

Another publication which will attract interest, not only from commercial growers but from a large number of people who have awakened to the fact that a good garden can cut costs of living, is New York Bulletin 223, "Asparagus Culture," by F. O. Underwood. In the beginning of the bulletin, asparagus in the family garden and asparagus for commercial production are discussed. Following, the various problems of profitable growing of asparagus are set forth in comprehensive and attractive form.

*"Report of the Agricultural Experiment Station of the University of California, from July 1, 1930, to June 30, 1931," Univ. of Cal., Berkeley, Calif.*

*"The Puncture Vine in California," Agr. Exp. Sta., Berkeley, Calif., Bul. 528, May, 1932, Ethelbert Johonson.*

*"Pasture and Feed Crops for Irrigated and Mountain Areas," Agr. Col., Fort Collins, Colo., Ext. Bul. 318-A, May, 1932, T. G. Stewart, D. W. Robertson, and Dwight Koonce.*

*"Forty-fifth Annual Report for the Fiscal Year Ending June 30, 1931," Agr. Exp. Sta., Gainesville, Fla.*

*"Sweet Potato Culture in the Coastal Plain of Georgia," Coastal Plain Exp. Sta., Tifton, Ga., Bul. 17, Feb., 1932, Otis Woodard.*

*"Watermelon Culture in the Coastal Plain of Georgia," Coastal Plain Exp. Sta., Tifton, Ga., Bul. 18, Feb., 1932, Otis Woodard.*

*"Report of the Director for the Year Ending June 30, 1931," Agr. Exp. Sta., Lafayette, Ind.*

*"Report on Agricultural Research for the Year Ending June 30, 1931," Agr. Exp. Sta., Ames, Iowa, C. F. Curtiss.*

*"An Analysis of Clover Failure in Kentucky," Agr. Exp. Sta., Lexington, Ky., Res. Bul. 324, Nov., 1931, E. N. Fergus.*

*"The Lawn," Univ. of Ky., Lexington, Ky., Ext. Cir. 256, Mar., 1932, N. R. Elliott.*

*"The Forty-fourth Annual Report of the University of Maryland, 1930-1931," Agr. Exp. Sta., College Park, Md.*

*"Seed Inspection," Agr. Exp. Sta., Amherst, Mass., Bul. 62, Control Series, Feb., 1932, F. A. McLaughlin and Margaret E. Nagle.*

*"Garden Roses," Agr. Exp. Sta., East Lansing, Mich., Spec. Bul. 222, Apr., 1932, C. E. Wildon.*

*"American Potato Journal," Potato Assn. of America, East Lansing, Mich., Vol. IX, No. 6, June, 1932.*

*"American Potato Journal," Potato Assn. of America, East Lansing, Mich., Vol. IX, No. 7, July, 1932.*

*"Thirty-ninth Annual Report, July 1, 1930, to June 30, 1931," Agr. Exp. Sta., Univ. Farm, St. Paul, Minn.*

*"Making the Home Lawn," Agr. Exp. Sta., Univ. Farm, St. Paul, Minn., Spec. Bul. 130, Rev. Apr., 1932, L. E. Longley.*

*"Reed Canary Grass for Meadows and Pastures," Agr. Exp. Sta., Univ. Farm, St. Paul, Minn., Spec. Bul. 137, Rev. Mar., 1932, A. C. Arny and R. E. Hodgson.*

*"Annual Forage Crops Under Irrigation," Agr. Exp. Sta., Bozeman, Mont., Bul. 261, Apr., 1932, J. E. Norton.*

*"Forty-fifth Annual Report of the Agricultural Experiment Station of Nebraska," Univ. of Neb., Lincoln, Neb., Feb. 1, 1932.*

*"Tuber Development in Triumph Potatoes as Influenced by Time of Planting on Dry Land in Northwestern Nebraska," Agr. Exp. Sta., Lincoln, Neb., Res. Bul. 61, May, 1932, H. O. Werner.*

*"Sweet Clover Management," Univ. of Neb., Lincoln, Neb., Ext. Cir. 134, May, 1932, P. H. Stewart and D. L. Gross.*

*"Annual Report of the Board of Control for the Fiscal Year Ending June 30, 1931," Agr Exp. Sta., Reno, Nev.*

*"Production of Crops and Livestock on the Newlands Project, 1931," Agr. Exp. Sta., Reno, Nev., Bul. 127, Apr., 1932, Cruz Venstrom.*

*"Agricultural Research in New Hampshire," Agr. Exp. Sta., Durham, N. H., Bul. 262, Apr., 1932, J. C. Kendall.*

*"Fifty-second Annual Report of the New Jersey State Agricultural Experiment Station and the Forty-fourth Annual Report of the New Jersey Agricultural College Experiment Station, for the Year Ending June 30, 1931," Agr. Exp. Sta., New Brunswick, N. J.*

*"Annual Hay Crops," Agr. Exp. Sta., New Brunswick, N. J., Bul. 540, Mar., 1932, H. B. Sprague, N. F. Farris, N. J. Curtis and W. G. Colby.*

*"Dahlias in the Garden," Agr. Exp. Sta., New Brunswick, N. J., Cir. 258, Mar., 1932, Charles H. Connors.*

*"The Farm Vegetable Garden," Agr. Exp. Sta., New Brunswick, N. J., Ext. Bul. 97, Apr., 1932, Charles H. Nissley.*

*"Cotton Investigations," Agr. Exp. Sta., State Col., N. M., Bul. 201, Mar., 1932, J. C. Overpeck and W. T. Conway.*

*"Growing China Asters," State Col. of Agr., Ithaca, N. Y., Ext. Bul. 212, July, 1931, A. C. Beal and Kenneth Post.*

*"The Peony, A Flower for the Farmer," State Col. of Agr., Ithaca, N. Y., Ext. Bul. 220, Jan., 1932, A. C. Beal.*

*"Forest Planting on the Farm," State Col. of Agr., Ithaca, N. Y., Ext. Bul. 226, Feb., 1932, S. N. Spring and C. H. Guise.*

*"What Farmers Want to Know About Silage-Crop Production," State Col. of Agr., Ithaca, N. Y., Ext. Bul. 228, Mar., 1932, H. B. Hartwig.*

*"Growing Cannery Peas," State Col. of Agr., Ithaca, N. Y., Ext. Bul. 229, Mar., 1932, C. B. Raymond.*

*"Experiment Station Progress—Report for the Biennium July 1, 1929, to June 30, 1931," Agr. Exp. Sta., Fargo, N. D., Bul. 256, Feb., 1932, P. F. Trowbridge.*

*"Spring Wheat Varieties for North Dakota," Agr. Exp. Sta., Fargo, N. D., Cir. 46, Mar., 1932, T. E. Stoa.*

*"Wheat Growing in Ohio," Ohio State Univ., Columbus, Ohio, Ext. Bul. 81, Rev. May, 1932, Earl Jones.*

*"The Bimonthly Bulletin," Agr. Exp. Sta., Wooster, Ohio, No. 157, July-Aug., 1932.*

*"Field Experiments in Agronomy," Agr. Exp. Sta., Wooster, Ohio, Spec. Cir. 38, June, 1932.*

*"Electrical Resistance of Pear Tissue as an Index of Maturity," Agr. Exp. Sta., Corvallis, Ore., Sta. Bul. 300, June, 1932, James C. Moore.*

*"The Farm Vegetable Garden," State Agr. Col., Corvallis, Ore., Ext. Bul. 443, Apr., 1932, A. G. B. Bouquet.*

*"Growing Fall and Early Winter Vegetables," State Agr. Col., Corvallis, Ore., Ext. Bul. 444, Apr., 1932, A. G. B. Bouquet.*

*"Forty-fourth Annual Report of the Director of the Agricultural Experiment Station," State Col., Kingston, R. I., Jan. 1, 1932, Basil E. Gilbert.*

*"Annual Report Rhode Island State College Extension Service, 1931," R. I. State Col., Kingston, R. I., Ext. Bul. 58, Apr., 1932, G. E. Adams.*

*"The Corn Contest—1931—For Larger and More Economical Yields," Clemson Agr. Col., Clemson College, S. C., Cir. 119, Feb., 1932, S. L. Jeffords.*

*"The Cotton Contest—1931—For Better Yield and Staple Value," Clemson Agr. Col., Clemson College, S. C., Cir. 120, Apr., 1932, R. W. Hamilton.*

*"Forty-fourth Annual Report, 1931," Agr. Exp. Sta., College Station, Texas, A. B. Conner.*

*"The Winter Garden Region of Texas," Agr. Exp. Sta., College Station, Tex., Cir. 62, June, 1932, E. Mortensen.*

*"Department of Agriculture—Immigration of Virginia," Dept. of Agr., Richmond, Va., Bul. 294, June, 1932.*

*"Department of Agriculture—Immigration of Virginia," Dept. of Agr., Richmond, Va., Bul. 295, July, 1932.*

*"Department of Agriculture—Immigration of Virginia," Dept. of Agr., Richmond, Va., Bul. 296, Aug., 1932.*

*"Filbert Culture," State Col. of Wash., Pullman, Wash., Ext. Bul. 170, June, 1932, H. D. Locklin.*

*"Washington Local 4-H Club Leaders' Handbook," State Col. of Wash., Pullman, Wash., 4-H Cir. 13, May, 1932, Henry M. Walker.*

*"Meeting Agriculture's Old and New Problems with the Aid of Science," Agr. Exp. Sta.,*

*Madison, Wis., Bul. 421, Feb., 1932.*

*"Basic Issues in Wisconsin Agriculture," Agr. Exp. Sta., Madison, Wis., Ext. Cir. 251, Feb., 1932, K. L. Hatch.*

*"Barley Tests at the Sheridan Field Station," Agr. Exp. Sta., Laramie, Wyo., Bul. 185, Mar., 1932, R. S. Towle and R. M. Williams.*

*"Analyses and Composition of California Lemon and Orange Soils," U. S. D. A., Washington, D. C., Tech. Bul. 241, Mar., 1932, H. D. Poore.*

*"Cotton Improvement Through Type Selection with Special Reference to the Acala Variety," U. S. D. A., Washington, D. C., Tech. Bul. 302, Mar., 1932, O. F. Cook.*

*"New Citrus Hybrids," U. S. D. A., Washington, D. C., Cir. 181, Aug., 1931, Walter T. Swingle, T. Ralph Robinson, and E. M. Savage.*

*"Irrigated Crop Rotations in Western South Dakota," U. S. D. A., Washington, D. C., Cir. 188, Jan., 1932, Stephen H. Hastings and Beyer Anne.*

*"Agronomic Work of the Big Spring, Tex., Field Station—1915-1929," U. S. D. A., Washington, D. C., Cir. 202, Feb., 1932, F. E. Keating.*

*"The Iron Content of Vegetables and Fruits," U. S. D. A., Washington, D. C., Cir. 205, Feb., 1932, Hazel K. Stiebeling.*

*"Agricultural Investigations at the United States Field Station, Sacaton, Ariz., 1925-1930," U. S. D. A., Washington, D. C., Cir. 206, Feb., 1932, C. J. King and H. F. Loomis.*

*"Field Tests of Imported Red-Clover Seed," U. S. D. A., Washington, D. C., Cir. 210, Feb., 1932, A. J. Pieters and R. L. Morgan.*

*"Propagation of Trees and Shrubs," U. S. D. A., Washington, D. C., Farmers' Bul. 1567, Rev. Feb., 1932, Guy E. Yerkes.*

*"Soybean Utilization," U. S. D. A., Washington, D. C., Farmers' Bul. 1617, Rev. Mar., 1932, W. J. Morse.*

*"List of Available Publications of the United States Department of Agriculture, Jan., 1932," U. S. D. A., Washington, D. C., Misc. Pub. 60, Rev. Jan., 1932, John O Riley.*

*"Film Strips of the U. S. Department of Agriculture," U. S. D. A., Washington, D. C., Misc. Pub. 91, Rev. Feb., 1932.*

*"A Dangerous Neighbor for Wheat, Oats, Barley, and Rye," U. S. D. A., Washington, D. C., Misc. Pub. 131.*

## Economics

Although the commercial production of tobacco, in what is now the United States, began in Virginia a few years after the settlement of that colony, a clear picture of the start of the tobacco industry in America is to be found in Connecticut Agricultural College's new Bulletin, 174. This publication is the fourth in a series of economic studies of the agriculture of the Connecticut Valley and is in particular, "A History of Tobacco Production in New England." Clarence Irving Hendrickson, formerly Assistant Agricultural Economist, Storrs Agricultural Experiment Station, is the author.

Among the interesting facts presented in the beginning of the bulletin are: John Rolfe, the husband of Pocahontas, was the first white man to grow tobacco, having planted some in his garden in 1612. The early settlers of New England found the Indians growing tobacco and undoubtedly some of them imitated the Indians both in its production and its use. There was evidence that it was produced in Massachusetts, Rhode Island, and Connecticut. There are records of tobacco entering the trade of the Connecticut Valley in the 17th century.

The bulletin treats in detail problems of the tobacco production in Colonial New England; the expansion of tobacco production, 1840 to 1880; the concentration of tobacco acreage in the Connecticut Valley, and the World War and the decrease in cigar consumption.

*"An Economic Survey of Yuma Valley and Yuma Mesa Agriculture," Univ. of Ariz., Tucson, Ariz., Ext. Cir. 72, May, 1932.*

*"Farmers' Cooperative Associations in Florida—1. Status and Legal Phases," Agr. Exp. Sta., Gainesville, Fla., Bul. 245, Apr., 1932, Marvin A. Brooker and H. G. Hamilton.*

*"Economic Utilization of Land for Pasture in Southern Indiana," Agr. Exp. Sta., Lafayette, Ind., Bul. 359, Feb., 1932, G. E. Young.*

*"Factors Influencing Corn Prices," Agr. Exp. Sta., Univ. Farm, St. Paul, Minn., Tech. Bul. 81, Sept., 1931, Rex W. Cox.*

*"Marketing Activities of North Dakota Agricultural College," Agr. Col., Fargo, N. D., Ext. Cir. 113, June, 1932, A. H. Benton and H. L. Walster.*

*"Economic Efficiency of Texas Country Banks," Agr. Exp. Sta., Col. Sta., Tex., Bul. 450, May, 1932, Virgil P. Lee.*

*"Virginia Farm Statistics 1931," Dept. of Agr., Richmond, Va., Bul. 9, Apr., 1932, Henry M. Taylor.*

*"Land Utilization in Laurel County, Ky.," U. S. D. A., Washington, D. C., Tech. Bul. 289, Mar., 1932, C. F. Clayton and W. D. Nicholls.*

## IOWA FORMULATES NEW TYPE OF FARM LEASE

A new type of leasing arrangement, in which the cash rent actually paid varies with the prices the tenant receives for his products, has been worked out by the agricultural economics department of Iowa State College.

Millard Peck, describing the new type of lease, says that "the index number of Iowa farm products would be used as a basis for adjusting the amount of cash rent. Based on past experience, the sliding scale of cash rents worked out by the Iowa economists indicates that when the prices of farm products have an index number of 150, the rent would be about $8 an acre. When prices decline so that the index is around 100, as during 1910 to 1914, the rent would be about $5.25 an acre.

"The plan is general and the amount of rent which any individual farm should command will vary with the fertility of the soil, farm improvements, closeness to markets, schools, and other factors. In all cases, however, it would be possible to signify in the cash lease that the amount paid shall be adjusted annually according to the prices of farm products. The index number is worked out for Iowa farm products each month by the agricultural economics department." —*U. S. D. A. Marketing Activities.*

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## THE MODERN NURSERY

A demand for a complete manual of nursery practice prompted Alex Laurie, Professor of Horticulture, and L. C. Chadwick, Assistant Professor of Horticulture, Ohio State University, to bring together the essential factors of modern nursery management in a book entitled, "The Modern Nursery," recently published by the Macmillan Company, New York. With information gleaned from personal experiences and experimental work, as well as from the actual practices of up-to-date nurserymen throughout the United States, the authors have covered the field well. Beginning with a discussion of the nursery business, its prospects and possibilities, the various phases of the subject are covered in detail. Among the contents are found chapters dealing with nursery location and layout, tools, plant propagation structures and methods, soils and fertilizers, pests, office management, marketing, nursery laws, etc. The book will be well suited, because of its detail, to use as a classroom text. Because of its practical information, references, and bibliography, it will find many friends among nurserymen.

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## A WEED, GOOD AND BAD

A weed which is good as well as bad has come to the attention of the United States Department of Agriculture. It is the nettle-leaved goosefoot.

To all outward appearances, this weed in a sugar-beet field concentrates all effort on robbing the crop of its plant food. But Dr. Eubanks Carsner, of the office of sugar plants, observed that it may compensate for its evil by weakening the virulence of the curly-top disease of sugar-beets. The disease is less destructive to beets after it has first passed through the goosefoot.

C. F. Lackey, also of the office of sugar plants, discovered that another weed, the wild chickweed, may restore the virulence of curly-top disease if the disease passes from goosefoot to the chickweed.

Neither weed is a practical factor in curly-top control in the sugar-beet belt yet, but plant pathologists think this relation of weeds to the virulence of diseases of nearby cultivated crops, discovered for the first time by these Department of Agriculture scientists, may have a practical bearing on some crop diseases.

## FARM FORESTRY PAYS

One-third of all farms in the United States yield as much as $220 worth of timber per year, the United States Department of Agriculture says. An exhibit from the Forest Service shows that the annual farm forest crop is worth $395,000,000. Timber not only pays in dollars and cents, but it is like a bank account upon which the owner can draw in times of stress. Its uses range from farm buildings, telephone poles, repairs, and fuel on the farm, to saw logs, cross-ties, pulpwood, posts, and poles.

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## FEED TOBACCO TO SHEEP

Ottawa, Canada.—Since Ralph Lane, Governor of Virginia (about 365 years ago), introduced tobacco into England, the use of the weed has grown in popularity. Now sheep in Canada have been introduced to "My Lady Nicotine." A recent bulletin issued by the Canadian Government Department of Agriculture states: "Losses from unthriftiness due to internal parasites in sheep may be reduced by the feeding of tobacco to the flock. The tobacco is given with salt in the proportion of ten pounds of salt to one of crushed tobacco leaf. The leaf should be dried so that it may be broken up in a size equal to wheat bran. This when mixed with the salt, slightly moistened, forms a cake which the sheep will lick when placed before them in the field or pen. This recommendation is made by Dr. Lionel Stevenson, author of the federal bulletin 'Common Animal Parasites Injurious to Sheep in Eastern Canada,' in which he states that for a flock unused to the tobacco a slightly less proportion of tobacco should be used for a week or two at the beginning."

Tobacco has become an important crop in Canada. Last year the total production was 36,716,917 pounds from 41,304 acres, an increase of about 7,000,000 pounds over 1929. The principal centre of tobacco production in Canada is Southwestern Ontario, where 28,616,750 pounds of the total crop of Canada last year was grown. The Ontario acreage was 32,665. Quebec produced 8,021,000 pounds from 8,450 acres and British Columbia 79,167 pounds from 189 acres. In 1920 Canada's tobacco production was 13,248,962 pounds from 16,621 acres.

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## POTASH NEED REVEALED BY ASHES

(*From page* 8)

receiving the side-dressing was used as a check. The following results were obtained:

| Treatment | Yield |
|---|---|
| 500 lbs. 4-8-6 plus potash side-dressing ..... | 329.85 bus. per acre |
| 500 lbs. 4-8-6 only ..... | 256.55 " " " |
| Net gain due to potash ..... | 73.30 " " " |

Due to fertilizer tests and results from wood ashes, the County Agent has increased the amount of potash in the analyses of fertilizers recommended for potatoes in Luce county.

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## NEW JERSEY'S AGRICULTURAL EXPERIMENT STATION, 1880-1930

One of the most comprehensive and interesting summaries of fifty years' progress in agriculture to be found is appearing in a 650-page volume entitled, "New Jersey's Agricultural Experiment Station, 1880-1930," recently published by the New Jersey Experiment Station. The occasion for the publication of this generously illustrated and entertaining book was the completion on June 30, 1930, of a half century in the life of this important institution.

The authors, Dr. Carl R. Woodward, Assistant to the President, Rut-

gers University, and Ingrid Nelson Waller, formerly Associate Editor, New Jersey Agricultural Experiment Station, in their foreword, entertain the hope that in their year-by-year account of experiment and experimenter, the book will become not alone a history, but a reference work, growing more valuable as the years advance. There is little doubt but that this hope will be fulfilled.

For anyone who would have a clear picture of one commonwealth's agricultural research and scientific, as well as unscientific, farming, there is no better source than this story of New Jersey's Experiment Station. The price of the book is $2.50, and copies may be obtained from the Bulletin Clerk at the New Jersey Agricultural Experiment Station, New Brunswick, New Jersey.

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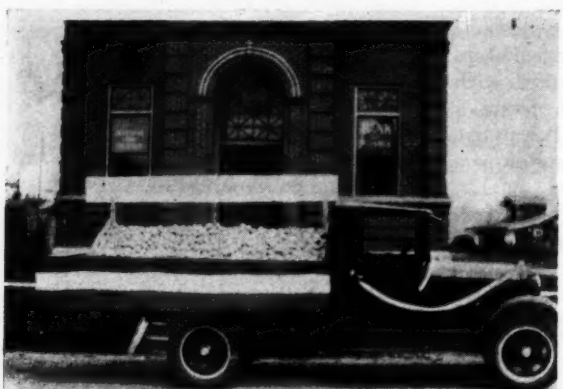
# W. Va.'s One-Acre Potato King

(*From page 7*)

planter. This application was followed up by an application of 400 pounds per acre of a mixture composed of 200 pounds of muriate of potash with 200 pounds of 9-27-9. This mixture was drilled broadcast using the fertilizer attachment of a grain drill shortly before the young potato plants started to come through the ground.

The land used for this potato field is good land to begin with, lies well, and is well-drained. It might be called a little heavy for early potatoes, but is good for late ones. It is kept up well by rotations in which legumes have a part, and also lime at intervals. A good clover sod was turned under for the potato crop, on which seven loads of manure per acre had been applied with a manure-spreader. Before the clover, wheat had been grown, and before the wheat, soybeans. Two tons of crushed limestone per acre had been applied about a week before the wheat was sown in the fall of 1929.

Twenty-three bushels of seed potatoes per acre were used. The seed was of the Rural Russet variety, the certified stock being purchased through the West Virginia Farm Bureau from New York State sources. Thirty-two-inch rows and nine inches apart in the row were the planting distances used, and the seed pieces were put in the ground about six inches deep. Mr. Russel believes in plenty of harrowing early in the season. A four-row power sprayer was used, going over the field eight times in all, and a potato digger was used to get the crop dug. Mr. Russel's farm consisted of 100 acres of mostly level land just north of Mill Creek on W. Va. Route 24.



**Mr. Russel entered this float, consisting of a truck load of potatoes, in the Forest Festival Parade at Elkins last fall. The building is the Bank of Mill Creek, which has been fostering the contest.**

***—Courtesy, West Virginia Farm News***

# A New Test *for* Limestone

## *By L. R. Combs*

Ames, Iowa

A NEW apparatus for testing agricultural limestone, which has been perfected by Dr. Paul Emerson of the Soils Department of Iowa State College, Ames, will make it easy for county agents, farmers, and small plant operators to determine the calcium carbonate content of the stone without sending a sample away to a soils laboratory.

The principle of the test is the same as that previously used, but the equipment is much lighter, more compact, and more easily carried in the field. The new apparatus weighs only eight pounds as compared to 35 to 50 pounds for the older types of equipment.

The equipment consists of a hydrometer having a small receptacle at the upper end. The hydrometer floats in water in a graduated tube. The sample of limestone is accurately weighed by dropping small amounts into the receptacle until the hydrometer registers a certain depth in the water. This does away with the necessity of carrying balance scales.

The water is dumped out after the sample is weighed, and the small amount of limestone is placed in the tube. Acid of a definite strength and volume is added to the limestone and boiled. Then the tube is filled up to the zero point with water. An alkali is added to neutralize excess acid. The amount of alkali added, registered in gradations on the side of the tube, reads directly in percentage the amount of pure calcium carbonate in the limestone.

With this equipment, limestone can be tested in five minutes at the car or plant and accepted or rejected immediately without waiting for a report from a chemical laboratory.

The new equipment also will be of value when a farmer wishes to have tests made of native deposits of limestone on his farm.

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# The Inquiring Mind

(*From page* 12)

public, gave credit to members of his staff which, to put the most liberal construction on it, he deserves to share. "It is not easy," says Dean Mumford, "for an executive to look on calmly and see one or more members of his staff rise to unusual popularity in the public eye—carried almost to the point of worship—and join in the workshop with abandon and forgetfulness of self; and yet I have seen that miracle performed in the life of the Dean."

Despite the tremendous amount of work Dr. Davenport had to get through daily as Dean and Director of the great Illinois institution, he took an active part in many other activities pertaining to agriculture. He is a Fellow of the A. A. A. S., a member of Delta Tau Delta, and of the Authors' Club, of London, England, and has been a voluminous and instructive

writer for the periodical press, in addition to the preparation of many illuminating reports and bulletins. His public addresses have been numerous and useful, while the books he has published have rounded out his reputation as a leader in agricultural science. His "Principles of Breeding" was published in 1907; "Education of Efficiency," in 1909; "Domesticated Animals and Plants," in 1910; and "Vacation on the Trail," in 1923. "The Farm" is another of his books, and he contributed to "The Book of Rural Life." "His largest results, however, have been indirectly achieved through organization of others, while he has been little in evidence personally."——Burrill.

> *We stand, as yet, only at the vestibule of the great Temple of Learning. It is a mansion of many rooms, wherein all humanity may find domicile; but it is only well begun. The Architect of all the Universe made the plans, when he implanted in the human brain the desire for knowledge and the power to achieve. Our forefathers have laid the foundations and erected some of the partition walls. It is for us to finish and furnish this home of knowledge, and it may be as magnificent as our vision can picture and our labor achieve.*
>
> —*Eugene Davenport* (1922)

When Dr. Davenport retired from the Deanship of the Illinois College of Agriculture in 1922, at a time of depression in the farming industry, his going closed an important era in the agricultural history of the State. President Kinley of the University, therefore, thought it well to call a conference of people interested in agriculture, to review the agricultural development of the State from the educational, scientific, and practical viewpoint of the 25 years through which Dean Davenport served, and to try to frame, if possible, the main outlines of a general policy of agricultural development for the State in the next quarter of a century.

The conference was held at the University January 26-7, 1922, and brought out a wealth of valuable information and advice regarding the many subjects considered. Dr. Davenport took a useful part in the debates. His work was referred to with approbation by several of the speakers.

Ralph Allen, speaking on a system of permanent agriculture remarked that Dr. Davenport had taken an active and essential part in the development of the Illinois system of permanent agriculture, and his influence pervaded every feature of Dr. Hopkins' work. Primarily a soil student, thoroughly informed in the soil literature of the day, having already commenced the system of soil investigation in Illinois by laying out a complete system of soil experiments at the Illinois Experiment Station and in the southern part of the State, Dr. Davenport was eminently prepared to cooperate through the whole course of Dr. Hopkins' investigations. This relationship amounted really to interdependence and was essential to the formation of the Illinois system of permanent agriculture.

L. H. Smith, in charge of publications of the soil survey at the Illinois Experiment Station, also expressed appreciation of the set of experimental plots on the University campus, laid out by Dr. Davenport in 1897 as a second series to those laid out by Professor Morrow and running for about a decade previous to the founding of the Illinois Agricultural Experiment Station. Thousands of farmers annually have visited these plots and learned from them many useful lessons in soil

management. Professor Smith expressed it as his opinion "that whatever else is changed on the campus, these old plots should be preserved for the benefit of generations to follow."

Professor Fred H. Rankin, Superintendent of Agricultural Extension, emphasized in his address that the accomplishments of the 25 years prior to 1922 did not just happen to come to pass. "They were the result of wise guidance and leadership. Somebody's watchfulness, somebody's thoroughness, is always required." While many men have contributed to the development of agricultural education in the last quarter of a century, he did not feel it proper to make general observations without referring to the skillful management and organizing ability of Dean Eugene Davenport. Looking backward, it little mattered who was Governor of the State for four or five years, but it was of infinite concern to Illinois citizenry as to who, for the past twenty-seven years, outlined the plans for the development of the agricultural industry and how it should be studied, taught, and developed from the standpoint of public policy. While agriculture has grown greatly in Illinois, as a result of this guidance, Dean Davenport has also largely contributed to the wealth and worth of the community life and social well-being in the way of projecting his personality into the minds and hearts of thousands of young men and women and older people who came into direct contact with him and are proud to do him honor.

During his long tenure of office, Dean Davenport's courtesy and sincerity endeared him to the students and his associates. His enthusiasm and geniality were infectious. Loyal always in his devotion to the best interests of the institution and the commonwealth he served, he proved himself a man of the first rank, honored, respected, and affectionately regarded by all who knew him.

"Had this man no faults?" you ask; and Dean Mumford answers: "Yes, I suppose he did have faults and possibly made mistakes; but knowing the Dean as I do, I am sure that he would confess to more mistakes that any one else could conjure up."

What a wonderful satisfaction it must be to Emeritus Dean and Director Eugene Davenport to know, as he looks from the windows of his home on the family farm at Woodlands, that what his hands found to do, he did with all his might, and that the talents with which he was so richly endowed by his Creator have been used rightly, righteously, unselfishly, and purposefully.

He had been taught that one of the supreme principles of life is "to do one's duty in that state of life unto which it shall please God to call me." He never forgot that lesson.

With his multitude of friends everywhere, we wish him happiness, content and peace in the ripe days of his long and useful life.

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# Saved Again

(*From page 6*)

We no longer turn our backs on suffering and disease. We believe every child entitled to an education and a fair chance at life. We condemn knavery and we endeavor to administer laws impartially.

"Every man has equal rights to appear before the law of the land for redress of grievances. Every man may advise and assist at legislation. We have abolished slavery and imprisonment for debt. We have reduced the capital crimes on the prison slate and become more constructive and humane

in the care of criminals. We have taken women and children under our mantle of wise justice and protect them from savage exploitation and wicked greed. And yet the timorous ones tremble for the future of America? Oh, ye of little faith, arouse yourselves from lethargy and vote for our platform! Our nation was nurtured in ambition and trained in achievement, and yet some of our so-called citizens know not the meaning of patriotism nor the symbol of Confidence. (Static applause.)

"We have become more tolerant of everything and have reached a higher ethical standard. We can worship the Diety in our own way and in our own conception of sacred altars. This alone is freedom beyond the mind of man to vision two hundred years ago. We are more kindly to our neighbors, more considerate of old people, safeguard the welfare of dumb animals, and uphold free speech. Go back to the last century or move to Mexico and see where you are. Then come back and bury your hammer! (Frantic shouts.)

"IT is the humble voice of the people at the fireside or behind the lawn-mower that rules America. Let them heap high the fagots of freedom which they have gathered with patience in the dark woods of despair. Let the reaper proceed on his way, beautifying America and destroying the dandelions of yellow fear. In no other way shall the homes of the nation be ready to receive the nominee of our steadfast platform—Eternal Confidence!"

Aroused by the alarm clock, I congratulated myself on being such a speakeasy. Muddled as one is by the morals of a dream, it seemed to me that certain basic truths obtruded themselves upon me as an aftermath.

First, no generation is entirely free of vague restless periods of qualm and disturbance. Yet each period looks back upon similar eras and takes some comfort and gathers some profitable lessons therefrom.

Second, as one slides down the mountain peak from times of speculation and sophistication into valleys of sanity and humility, the smaller and more precious items of human existence are more thoroughly enjoyed.

Third, we must stop belittling our political opportunities and tagging all men who seem enthusiastic for social justice as arrant demagogues. We have been so much afraid of being cajoled and bamboozled that we give few men honest credit for clean intentions in public campaigns.

When we bemoan lack of state and national leadership, it is merely a reflection upon ourselves and our times. Has our universal education led us into wasteful skepticism?

IS this not the time for trained minds to join forces with recognized leaders and not draw aloof in academic criticism from the current affairs that hold in them the destiny of tomorrow?

In this very present strife political, we decry most of all the slander on American tradition and the faith of pioneer ancestors. The positive and purposeful leader is always optimistic.

Mistakes will come, regardless of party shibboleth or hopeful promises. In politics we spend too much time anticipating mistakes and far too little in doing our part as citizens to appreciate government services.

After all, probably it's our followship rather than our leadership that counts for progress. The force of Washington and Lincoln depended upon the power of the people behind them.

So instead of clothing the past in awful majesty and the present in clownish motley, let us put on a pair of jumpers ourselves and roll up our sleeves. If there's a knock in the public motor, be sure that it isn't your hammer that causes it, and if you think it just needs a greasing, do it yourself. Don't send for the wrecking crew.

### Avoid This Mistake

New Circus Actress: "Well, boss, since you've given me a job in your circus, you had better tell me what to do to keep from making a mistake."

Manager: "Well don't ever undress before the bearded lady."—*Battalion.*

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Woman (about to attend political meeting): "I'm not prejudiced at all. I'm going with a perfectly open and unbiased mind to listen to what I'm convinced is pure rubbish!"—*Tit-Bits (London).*

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Teacher: "Willie, what is an adult?"

Willie: "One that has stopped growing except in the middle."

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One thing you can say for ice cream sodas is two or three of them don't convince you that your wife will believe you are working late.—*Life.*

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"When is the next train out of this burg?"

"Twelve o'clock, sir."

"What? Isn't there one before that?"

"No, sir, we never run one before the next."

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### How About It?

Pat called on the priest and said: "Father, can I ask a question?"

"Sure, Pat," said the priest.

"Well, Father," said Pat, "I know all about Shrove Tuesday, Ash Wednesday, and Good Friday, but phwat the divil is Nut Sundae?"

—*The Corn Cob.*

### No License

"Mistuh Johnson, I has discovered I can get yo' yo' divorce on de grounds dat yo' marriage ain't legal, on account of her father, he had no license to carry a gun."—*Judge.*

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Traveler: "Who's the close-mouthed individual in the corner? He hasn't spoken for ten minutes?"

Village Wit: "He just waitin' till Pete comes back with the spittoon."

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Let us remind all our lecturers that the longer the spoke the greater the tire.

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### Confidence Exposed

Indignant Father: "Do you think it is fair, Bobby, after I told you there wasn't any Santa Claus, to go and tell the neighbors I laid your Easter eggs, too?"

---

Mistress: "So your matrimonial life was very unhappy? What was the trouble? December wedded to May?"

Chloe Johnson: "Lan' sake, no, mum! It was Labor Day wedded to de Day of Rest!"

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Farmer: No, I wouldn't think of chargin' ye fer the cider. That'd be bootleggin'; an', praise the Lord, I ain't come t' that yit. The peck o' potatoes'll be five dollars."

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### In Passing

This country was all right while we only tried to keep up with the Joneses —the depression came when we tried to pass them.

# Citrus Trees NEED MORE *than* Potash

SCIENTIFIC analysis shows that citrus fruits remove from the soil more potash than both nitrogen and phosphoric acid . . . . yet we do not recommend potash alone for fertilizing citrus trees. This would be just as foolish as recommending nitrogen alone or phosphoric acid alone.

Every time you feed your trees feed them a well-balanced fertilizer containing nitrogen, phosphoric acid, and potash. Well-balanced fertilizers produce well-balanced growth. . . plenty of foliage for manufacturing. . . . regular crops of high quality fruit. . . . and thick, short growths for storing for fruit bud differentiation for future crops.

Of course your citrus fertilizer should contain plenty of potash. Potash promotes a crop with good finish that holds up well on the market. Potash keeps leaves manufacturing to capacity, transferring sugar and starch and storing them in fruit. Potash strengthens wood tissues where food is stored for future use. . . . making trees healthy, strong, and less susceptible to winter injury. POTASH PAYS!

POTASH PAYS ON ALL CROPS — NV — POTASH EXPORT MY. — TRADE MARK REG.

**Potash is the final figure in your fertilizer analysis. Make sure your citrus fertilizer contains at least 10% potash. Remember, POTASH is the QUALITY element.**

**N. V. POTASH EXPORT MY., Inc., Atlanta, Ga. . .San Jose Cal.**

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